Inflation Report

Summary

The *Inflation Report* reviews recent developments in inflation and presents the Bank of England's analysis of future prospects. It contains seven sections covering:

(i) recent price developments;

(ii) monetary and fiscal policy;

(iii) demand and output;

(iv) the labour market;

(v) price dynamics;

(vi) the prospects for inflation; and

(vii) conclusions.

Inflation has continued to fall throughout the period since the May *Report*. The headline inflation rate has fallen to 1.2% a year, the lowest for nearly thirty years. Underlying inflation, defined in terms of RPIX, has fallen from a rate of 3.5% in March to 2.8% in June, the lowest figure since the index first became available.

The inflation outturn has been lower than projected at the time of the last *Report*. This is partly because food, alcohol and tobacco did not increase in price as rapidly as expected, taking into account the usual seasonal pattern, and partly because price increases across the range were lower than implied by their recent behaviour. Inflationary pressures have continued to weaken. Such large divergences between the outturn and the previous projection constitute news about underlying inflation. The ratio of retail to wholesale prices fell more than expected. The impact of sterling depreciation on import prices has been offset by a reduction in unit labour costs, leaving total costs broadly unchanged.

Monetary policy is based on an assessment of the direction in which inflation is moving one to two years ahead, and not on the backward-looking measure of the increase in prices over the past twelve months. The Bank's central projection is that inflation will remain within the target range over the next two years. It is important to distinguish between RPIX inflation, used in the definition of the target range, and a measure of underlying

inflation which excludes changes in both indirect and local authority taxes. Excluding the effects of taxes, the underlying rate of inflation is expected to decline further over the next year and then to remain broadly constant into 1995. In contrast, RPIX inflation will increase in the first half of 1994 as a result of the extension of VAT to domestic fuel and power (and any indexation of excise duties to be announced in the November Budget) and the change from the Community Charge to the Council Tax dropping out of the twelve-month rate. The official measure of underlying inflation may, therefore, be close to the top of the target range in the first half of 1994.

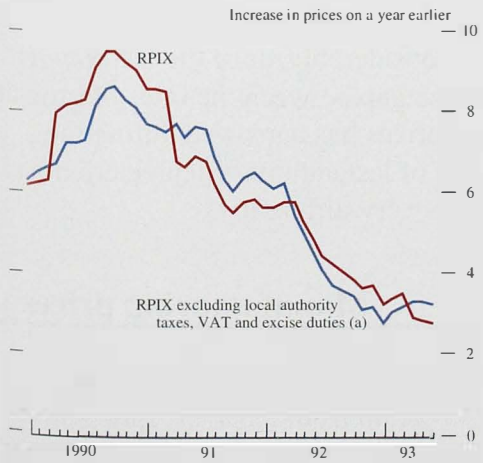
The evidence on expectations of inflation suggests that it is expected to remain within the target range over the next two years or so. But market expectations derived from the yield curve do not yet appear to be consistent with the achievement of the inflation target over the next decade. Credibility of the target over this horizon matters because it affects the level of long-term interest rates. Such rates are also influenced by the level of the budget deficit. The prospective rise in the ratio of government debt to GDP is of concern because it may lead to fears that the real burden of this debt will eventually be monetised.

The recent reductions in inflation improve the prospect that inflation will remain within the target range, which will enhance the credibility of the target range itself. But it is important that adherence to the target range is not interpreted simply as holding inflation below 4% a year. Part of the original statement of the target was that inflation should be in the lower half of the range by the end of this Parliament. That outcome is within reach provided that monetary policy does not accommodate increases in nominal costs, and that fiscal policy does not threaten the inflation target in the longer run.

Recent price developments 1

Chart 1.1
Inflation

Chart 1.2
Underlying inflation



(a) Bank estimate based on estimates of the VAT and excise duty content of RPI components.

Table 1.A
Contributions to underlying inflation

	Goods	Of which, selected goods(b)	Services	Of which, administered prices(c)	Council Tax	RPIX(a)
June 1992	2.04	0.36	2.32	0.37	0.55	4.8
Dec. 1992	1.36	0.18	1.81	0.14	0.43	3.7
March 1993	1.37	0.21	1.78	0.21	0.44	3.5
June 1993	1.49	0.16	1.59	0.01	-0.30	2.8

(a) Percentage changes on a year earlier.
(b) Clothing and footwear, household goods and leisure goods.
(c) Water, coal and solid fuels, electricity, gas, postage, telephones, bus and coach fares and rail fares.

Contributions may not sum to RPIX owing to different weight values across any twelve-month period.

1.1 Retail prices

Underlying inflation—defined as the twelve-month change in the Retail Prices Index excluding mortgage interest payments (RPIX)—has fallen since the last *Inflation Report*. It was 3.5% in March but fell to 2.9% in April and 2.8% in May and June (see Chart 1.1). The fall was matched by a decline in the 'headline' rate of inflation (which includes mortgage interest payments). It fell from 1.9% at the time of the last *Report* to 1.3% in April and May and 1.2% in June.

A fall in inflation was widely expected for April, because of the ending of the Community Charge. The new Council Tax payment is about 9% less for a representative household than was the Community Charge. The change *reduced* RPIX by an estimated 0.3% between March and April. The twelve-month change in the index fell even more because between 1991/92 and 1992/93 the Community Charge had *raised* the index by about 0.4 percentage points (see Table 1.A). The full impact of the change is the sum of these contributions, which amounts to a reduction in the twelve-month change in RPIX of 0.7 percentage points. Excluding both this factor and also indirect taxes, inflation, at 3.2%, has fallen since April (Charts 1.2 and 1.3) after increasing earlier in the year. This increase reflected the rise in import prices following the depreciation of sterling between September and February.

Table 1.A shows that goods are contributing a little more to underlying inflation than at the time of the last *Report*. By contrast, services are contributing a little less. Although both changes are small, they reflect some further passing on of higher import prices after sterling's depreciation last September. However, the contribution to the underlying inflation rate from clothing and footwear, and household and leisure goods, where imports account for a relatively high proportion of sales, has fallen slightly since the last *Report*. Within services, the contribution from the newly privatised utilities and public corporations has diminished. The table shows that administered

Chart 1.3
Conventional measures of inflation

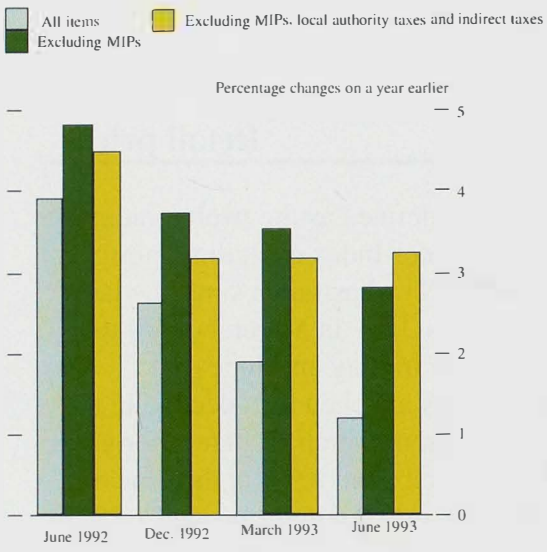


Table 1.B
Short-run measures of inflation

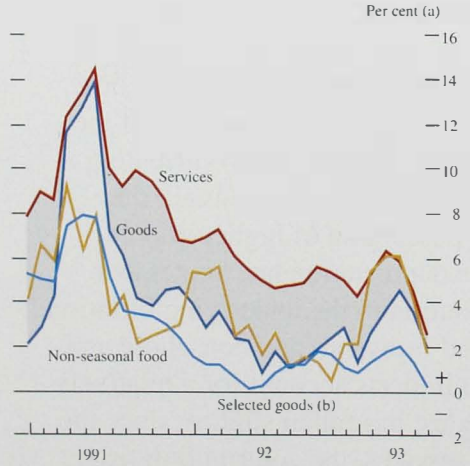
Percentage changes (a)

	RPI	RPIX	RPIX excluding local authority and indirect taxes	Goods	Services
June 1992	3.5	3.4	2.4	0.8	5.0
September 1992	2.4	2.8	2.4	1.4	4.9
December 1992	0.8	3.8	3.7	2.8	5.0
March 1993	0.7	3.8	4.0	3.7	6.2
June 1993	1.0	0.8	2.8	2.0	2.5

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

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 also comprises the Community Charge, personal articles and dwellings insurance.

Chart 1.4
Recent retail price developments



(a) The change in the latest month on three months earlier, seasonally adjusted, annualised rates.
(b) Selected goods consist of household goods, clothing and footwear and leisure goods.

price changes made a negligible net contribution to the underlying inflation rate in June, compared with about 0.2 percentage points at the time of the last *Report*, and 0.4 percentage points a year ago.

Inflationary developments take time to be reflected fully in conventional twelve-month inflation rates. Table 1.B shows price changes measured over three-month periods. The figures are seasonally adjusted and annualised to allow comparison with standard measures, though the process of seasonal adjustment is not straightforward and short-run measures are more volatile. Even so, the three-month rates do offer a more up-to-date picture of inflation. The short-run measure of underlying inflation has fallen sharply since the last *Report*. As with the twelve-month measure, however, the fall is partly due to the switch from Community Charge to Council Tax. When both local authority and indirect taxes are excluded, the decline is smaller, although the rate is below the twelve-month figure. The prices of many items in the clothing and footwear, household and leisure goods sectors are going up more slowly than three months ago; this is partly because of the early start to the summer sales this year. And food prices have risen more slowly after increasing sharply between December and March (see Chart 1.4). Inflation in the service sector has also fallen considerably since the last *Report*. The chart shows that the gap between the rates of growth of goods and services prices has narrowed during the past year as the impact of last autumn's depreciation has affected the two sectors very differently.

1.2 Manufacturing prices

In the twelve months to June, manufacturers' output prices increased by 4.0%, up from 3.8% in April. Most of this change is attributable to faster increases in prices of food, drink and tobacco. In the year to June, prices for these sectors increased by 6.3%, up from 5.9% in April, and from 4.8% in the year to June 1992. Part of the increase to May may have been the result of delays in passing through the higher excise duties announced in the March Budget. The greater part, though, especially continuing into June, comes from the 'green pound' devaluations at the turn of the year, which resulted in sharp increases in input costs.

Excluding food, drink and tobacco, manufacturing output prices rose by 2.6% in the year to June, unchanged since the beginning of the year, and 0.3 percentage points down on June 1992 (see

Chart 1.5
Producer output price inflation

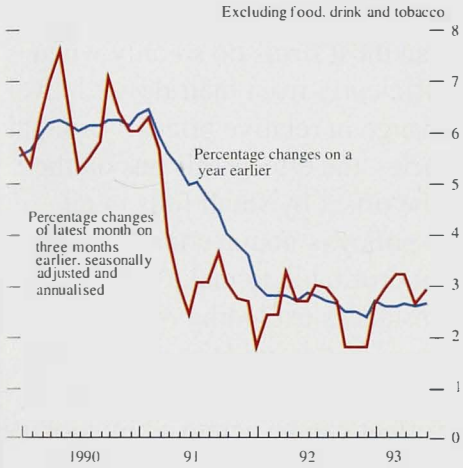
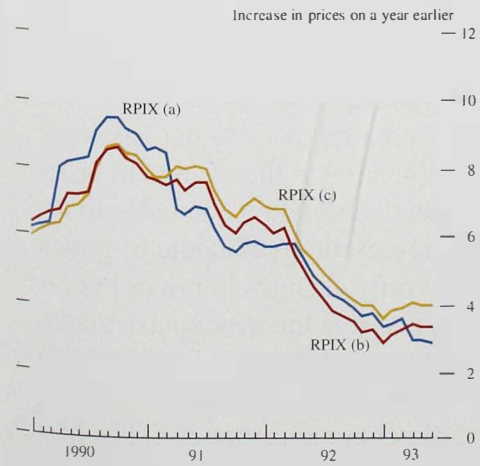


Table 1.D
Domestic deflators—expenditure components

	GDP	Consumption	Investment	Government	Exports	Imports
Percentage changes on a year earlier:						
1991 Q2	6.6	6.8	-0.3	7.4	1.3	-3.2
Q3	4.9	6.9	-1.8	6.3	0.5	—
Q4	4.9	6.0	-2.6	6.6	-0.4	0.1
1992 Q1	4.9	6.1	-4.4	6.6	1.6	0.4
Q2	5.4	5.3	-4.9	6.6	0.1	-0.8
Q3	4.6	4.5	-4.1	7.0	-1.6	-1.9
Q4	2.5	4.3	-3.2	7.1	2.4	5.6
1993 Q1	2.0	4.0	-1.7	6.5	6.8	11.9
Percentage increase on previous quarter (seasonally adjusted):						
Q4 on Q3	-0.7	1.6	0.1	2.0	3.7	8.5
Q1 on Q4	0.7	1.2	-0.3	1.1	5.1	4.6

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.

Chart 1.6
Measures of 'core' inflation



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

Chart 1.5). In the three months to June, producer prices (excluding food, drink and tobacco) rose at an annualised rate of 2.9% (see Chart 1.5). This is 0.3 percentage points below the April rate. Though more volatile than its corresponding twelve-month rate, this shorter-run measure suggests there is little upward pressure on factory gate inflation.

1.3 Domestic deflators

The GDP deflator is a measure of inflation for total output produced at home. In the first quarter of 1993, the factor cost GDP deflator (which excludes indirect taxes and subsidies) rose by 0.7%. In the year to the first quarter, the deflator rose by 2.0%, its smallest increase since 1964. Table 1.D shows the deflator for GDP and its components. The large variations between the different components partly reflect the consistently lower rate of inflation for goods than for services. As a result, components which contain a big share of expenditure on services, such as government consumption, also tend to have high inflation rates. The rate of increase in the GDP deflator has fallen since 1990, when it reached 9.1%. As the GDP deflator measures domestic costs, any rise in import prices that is not passed on (but is instead absorbed in margins) will cause the GDP deflator to fall, as it did in the fourth quarter of 1992.

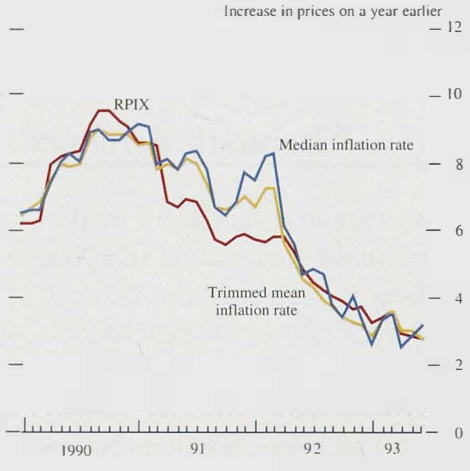
1.4 'Core' inflation

Large changes in relative prices may lead to a sudden but temporary change in measured inflation: examples include the prices of seasonal foods and petrol. It is not easy to be sure whether a change in measured inflation is temporary or is part of a longer-term process of adjustment. For this reason it is useful to try to identify a 'core' rate of inflation.

Charts 1.6 and 1.7 show measures of core inflation using two different approaches. In Chart 1.6, the 'core' is defined by removing those prices which, either because they are volatile or because they are controlled by government, are deemed unrepresentative of the general level of prices. The chart shows two such measures, together with underlying inflation (RPIX). The two move broadly together. Chart 1.7 shows two further core measures—a median inflation rate, and a weighted average of the central 70% of the distribution of price changes (ie the average after excluding the largest 15%

and smallest 15% of price changes—a 'trimmed mean'). The measures were discussed in the May *Report* (page 10). They are based on the premise that it is costly to adjust prices; so most firms do so only when actual prices deviate sufficiently from their desired level. When there is a large change in relative prices—brought about by, say, an oil-shock—the effects this has on the general price level will be offset by small falls in all other prices if monetary policy is non-accommodating. But firms may not find it profitable to make these small changes. In such circumstances excluding oil prices from the price index gives a better guide to underlying inflation. This is the rationale for ignoring large price rises or falls. A similar effect can be achieved by looking at the median rate of inflation. As can be seen from Chart 1.7 both measures follow underlying inflation closely for most of the period.

Chart 1.7
Alternative measures of 'core' inflation

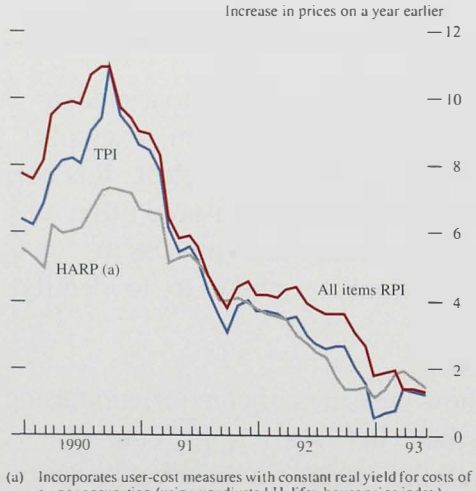


An alternative approach to measuring core inflation has been explored in the Bank. Statistical techniques are used to identify that part of measured inflation which is caused by shocks that do not affect the level of output in the long run; we would expect most monetary shocks to fall in this category. The Bank study, which is discussed more fully in the accompanying box, suggests quite wide variation in 'core' inflation so measured over the past five years, falling to about 2% in recent months.

1.5 Other measures of inflation

The housing adjusted RPI (HARP Index) replaces the mortgage interest component of the headline RPI with an alternative measure of the cost of owner-occupied housing.(1) Chart 1.8 shows that HARP inflation rose from 1.8% at the time of the last *Report*, to 1.9% in April, and then fell to 1.4%.

Chart 1.8
RPI and HARP inflation rates



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

The Tax and Price Index (TPI) has risen since the last *Report*. In the year to March, it rose by 0.7%; in April the twelve-month rate increased to 1.3% but has since fallen to 1.2%. The TPI measures the change in gross income that would be needed to allow a household to continue purchasing a representative bundle of goods. It takes into account not only changes in prices but also changes to direct taxes, and it is therefore particularly relevant for cost of living comparisons. The rise in the TPI twelve-month inflation rate since March is a consequence of these direct tax adjustments. The March 1992 Budget introduced a number of changes to the tax

(1) For a more detailed account of this measure see the box on page 21 of the February *Inflation Report*.

'Core' inflation revisited

Measuring inflation by a price index, such as the RPI, often leads to difficulties in identifying a general upward movement in prices. Measures of underlying or 'core' inflation attempt to focus on the general price level by smoothing short-term fluctuations, or by stripping out individual series, such as mortgage interest payments. But if, for example, oil price inflation is temporarily much higher than the RPI average, should this information be disregarded? Oil is an important commodity, and omitting its price may lose important information about inflationary developments. Yet the so-called 'trimmed mean' estimator (see Chart 1.7)—which omits any observation that is more than an arbitrary distance from the median inflation rate—risks this type of distortion (it is based on microeconomic theory which suggests less weight should be put on outlying price changes).

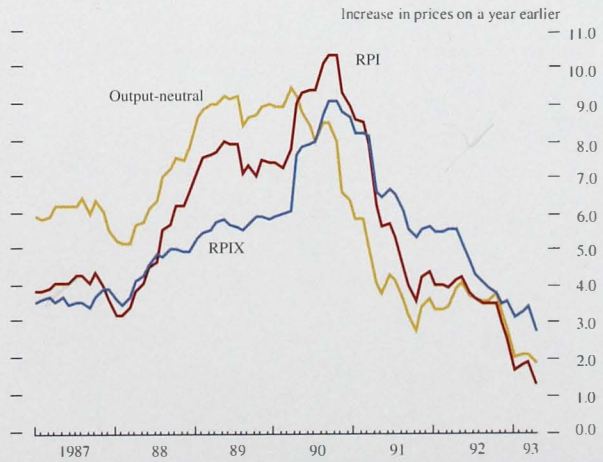
As discussed in the first *Inflation Report*, an alternative approach is to use a measure of core inflation derived from the behaviour of the economy in response to shocks.(1) According to this approach, core inflation is defined as that component of measured inflation that is uncorrelated with real output in the long run. This is consistent with a common proposition of macroeconomic theory: if the long-run Phillips curve is vertical, then monetary shocks will affect core inflation but not output in the long run.

This measure is appealing in that no RPI component is excluded *a priori* at any time. Furthermore, no attempt is made to smooth any volatility in the data since there is no reason to expect 'core' inflation to be stable. The choice of which movements in the RPI components are included in the core measure is based only upon the effect of the underlying disturbances on the real economy.

The estimate is obtained using a vector autoregression (VAR) system. The observed changes in the RPI measure of inflation are affected by two types of disturbance. The first of these has no impact on real output in the long run; the second does. An estimate of 'core' inflation is constructed which depends only upon the first type of disturbance.

The chart shows this (long-run) output-neutral measure of inflation, together with the twelve-month changes in the RPI and RPIX. There are a number of striking features. First, by this measure, 'core' inflation was considerably higher in the late 1980s than indicated by either of the more conventional inflation measures. Second, since 1990, 'core' inflation has generally been lower than the RPI or RPIX measures of inflation. Third, the output-neutral measure peaked earlier than the two other series—responding more quickly to the monetary tightening in the period. Fourth, there has been little sign of an upturn in 'core' inflation in response to sterling's fall last autumn.

Measures of inflation



(1) Quah, Danny and Vahey, Shaun P (1993), 'Measuring Core Inflation', mimeo, Bank of England.

structure, including a new 20p lower band for income tax. This had the effect of limiting the monthly rise in the TPI to just 0.2% between March and April last year, while the RPI rose by 1.5%. However, the 1992 budget changes have now fallen out of the twelve-month increase in the TPI, so it has now moved broadly back into line with the RPI.

1.6 Summary

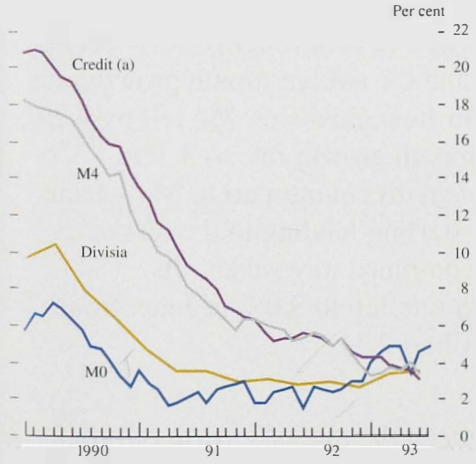
Both headline and underlying inflation have fallen sharply since the May *Report*. Three months ago there were signs of the effect of sterling's depreciation on retail prices. Short-run inflation for those classes of goods where import penetration is high seems to have reached a peak around April and to have fallen since then. However, the falls in headline and underlying inflation since the last *Report* probably exaggerate the decline in true underlying inflation. The introduction of the Council Tax has lowered measured inflation in a way which is likely to prove temporary. Adjusting for this effect, inflation is slightly lower than at the time of the last *Report*.

Monetary and fiscal policy 2

2.1 Monetary aggregates

The signals from the monetary aggregates converged slightly in the second quarter, with both narrow and broad money growing more slowly than at the time of the last *Report*. M0 growth slowed down a little, but was still above its monitoring range of 0%–4%. M4 growth picked up in May, but fell in June, and its twelve-month growth rate declined to 3.3%, near the bottom of its monitoring range of 3%–9% (see Chart 2.1). Growth in the private sector counterpart of M4 remained weak.

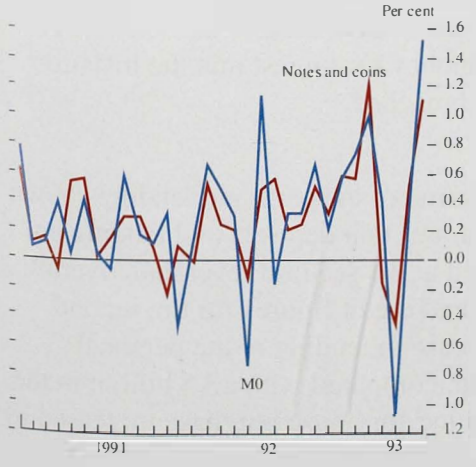
Chart 2.1
Twelve-month growth rates of M0, M4, Divisia and the credit counterparts to M4



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

M0 growth fluctuated during the second quarter. Monthly changes showed a modest increase in April, a substantial decline in May and increases in June and July for a twelve-month growth rate at 4.8% (down from 4.9% in March). Some of the month-to-month variation was due to changes in bankers' balances and a better picture of the underlying position is given by movements in notes and coin, the level of which fell in April and May but picked up again both in June and July (see Chart 2.2). By July the twelve-month growth rate was 5.2% (5.1% in March).

Chart 2.2
Monthly growth rates of notes and coin and M0

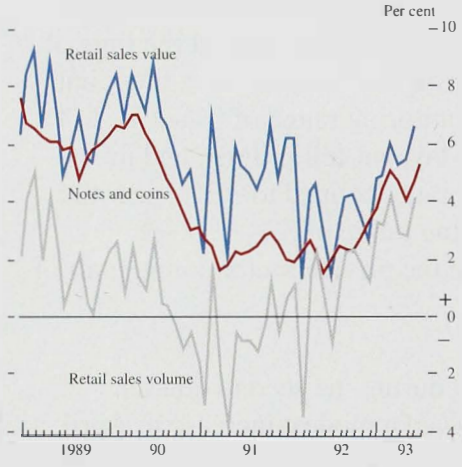


Over the past year or so, M0—and particularly notes and coin—has been a good guide to turning points in retail sales. The increase in narrow money growth after September 1992 was an early indication of economic recovery, and its slowdown in April and May this year gave one of the first signals of the unevenness of recovery in consumer demand (see Chart 2.3). One advantage of M0 as a short-run indicator of economic activity is that it is available several weeks ahead of the data on retail sales and other measures of domestic demand.

Although the relationship between M0 and nominal income—M0 velocity—is relatively predictable (despite the fact that velocity has increased steadily over time), it is affected by changes in interest rates (see box on page 299). A fall in the opportunity cost of holding cash may result in both an increase in desired cash holdings for a given state of the 'technology' of financial intermediation and a reduction in the rate at which

financial innovations are introduced or exploited (because the incentive to innovate is reduced). As a result, the much lower level of nominal interest rates since last September will have led to an increase in the demand for narrow money and a slowing down in the rate of increase of velocity. Both factors will have boosted the twelve-month growth rate of M0 and hence the fact that M0 is growing at a rate above the top of its monitoring range does not necessarily threaten the inflation target.

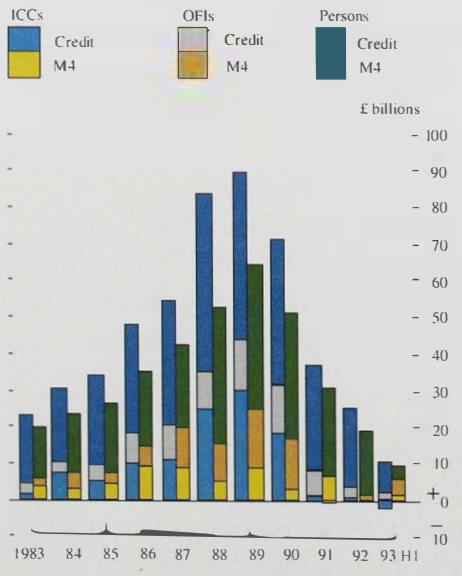
Chart 2.3
Twelve-month growth rates of notes and coin and the value and volume of retail sales



Turning to broad money (M4), its twelve-month growth rate reached its lowest point in January this year, at 3.1%. Monthly growth was then roughly 0.5% between February and May; and the twelve-month growth rate picked up to 3.9%. In June, however, M4 fell by 0.2%, reducing its twelve-month growth rate to 3.3%. Meanwhile, the main credit counterpart to M4—bank and building society sterling lending to the rest of the private sector—has continued to weaken. Its twelve-month growth rate fell to 3.0% in June, from 3.8% in March (see Chart 2.1).

The relationship between the rate of growth of broad money and either inflation or the growth of nominal GDP has changed over the past fifteen years, largely because of the changes resulting from financial liberalisation. But, as can be seen from the chart in the accompanying box, the income velocity of M4 has been roughly constant since the late 1980s. It is possible that adjustment to financial liberalisation has taken place, leading to a more stable relationship between broad money growth and increases in nominal income than was apparent in the early to mid-1980s. Given the continuing slow growth in M4, there is nothing in the behaviour of broad money to suggest that the inflation target is likely to be breached.

Chart 2.4
M4 and credit flows: sectoral composition



The sectoral composition of deposits and lending shown in Chart 2.4 demonstrates that deposits and lending are less closely correlated at the sectoral level than overall. The sectoral money and credit figures for the second quarter show an increase in lending to the personal sector of £5.1 billion, compared with £3.5 billion in the first quarter. Borrowing for house purchase increased by £4.6 billion (1.5%) compared with increases of £3.9 billion in each of the previous two quarters, consistent with a modest upturn in activity in the housing market, but still well below the increases in borrowing in each of the first three quarters of last year. Consumption

The velocity of circulation of money

The use of a monetary aggregate as an intermediate target or as an indicator variable depends on its velocity being predictable. The growth of the money stock is approximately equal to the inflation rate plus the rate of growth of transactions less the growth of velocity. If the latter term is predictable, then money growth serves as an accurate indicator of activity in the wider economy and control of money growth should ensure that nominal expenditure grows at an appropriate rate. Thus it is important to be able to explain and predict changes in velocity and, in particular, its response to monetary policy actions.

Chart A
Velocity of M0, M4 and Divisia

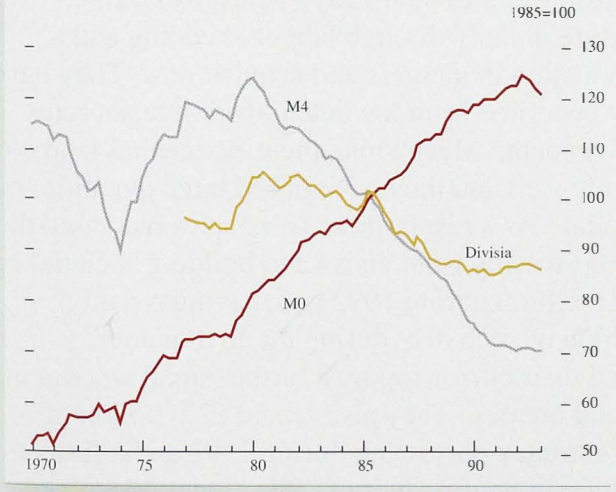
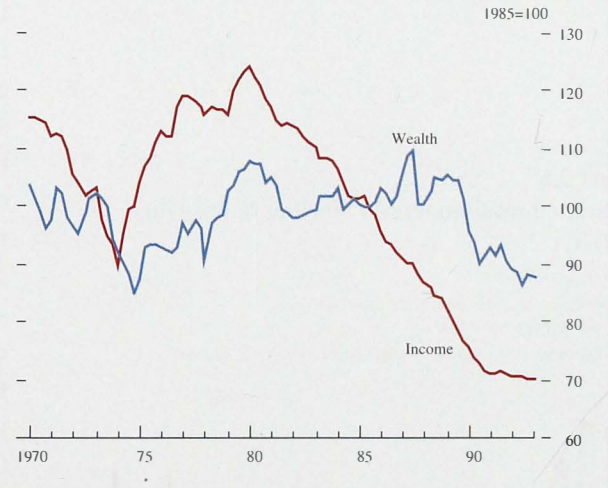


Chart A plots the velocity of M0, M4 and Divisia money with respect to nominal GDP since 1970. M4 velocity has been erratic, trending downwards from 1980 to 1990 and broadly constant since then. M0 velocity has been trending upwards over a much longer period, in fact since 1946. Divisia velocity has been relatively stable over the period for which data are available.

The velocity of money depends primarily on the cost of holding money and on changes in transactions technology. Since M0 is not interest-bearing, the cost of holding M0 is simply the rate of return on a competing asset. For M4, a large component of which is interest-bearing, the cost is the rate of return on a competing asset less the return on M4 holdings. Hence M0 velocity reflects the interest rate level whereas M4 velocity reflects rate of return differentials.

As technology is introduced and diffuses through the economy we would expect to see lower holdings of money balances held for transactions purposes and hence velocity to be increasing. M0 velocity has been relatively, if not wholly, predictable when a proxy for technology trends (a cumulative interest rate term) has been used. But broad money velocity appears to have been following a downward trend. This is because M4 includes savings balances which tend to move in line with wealth rather than income. Chart B shows that M4 velocity with respect to (total gross personal sector) wealth has been more stable than with respect to income.

Chart B
M4 velocity



To the extent that the increase in the wealth income ratio was itself a product of financial liberalisation, a process in which the major changes are probably behind us (such as the abolition of exchange controls in 1979 and the increased competition between banks and building societies), we might expect M4 income velocity to become more stable in the future.

The idea behind Divisia money is to strip out the savings components of M4 leaving just the transactions elements —including some which are interest-bearing. Hence the stability of Divisia velocity relative to M0 and M4.

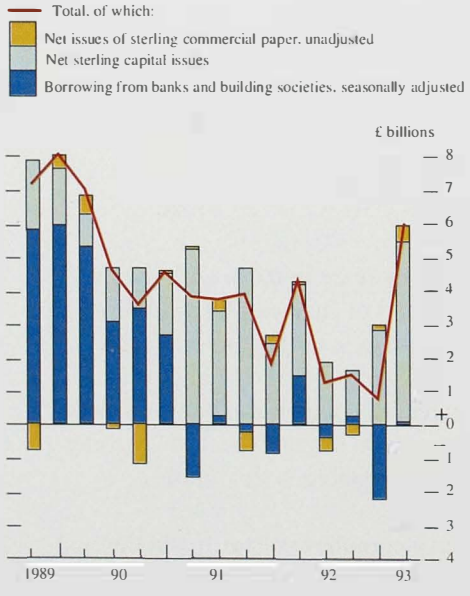
Changes in the velocity of money during the recent recession and the first stages of the recovery have been particularly difficult to explain. M0 velocity growth has actually been falling since the second quarter of 1992. Meanwhile, M4 velocity has flattened off after a prolonged downward trend. It is too early to tell whether these are permanent or temporary changes, but they are consistent with divergences between the respective determinants of money demand: income and the interest rate level for M0; wealth and rate of return differentials for M4.

borrowing rose by £0.5 billion (1.2%), in line with the trend in retail sales over the quarter, following a 0.7% increase in the first quarter. Deposits of households rose by £2.8 billion, slightly up on the first quarter.

Borrowing by unincorporated businesses (which are included within the personal sector) remained practically unchanged in the second quarter, whereas during the first quarter they repaid £0.7 billion of borrowing. This suggests that although the pace of their financial restructuring has slowed they remain unwilling to increase their borrowing.

The health of industrial and commercial companies has, in aggregate, continued to improve. They adjusted to the recession, and to their heavy debts, by cutting expenditure, mainly through labour-shedding and a sharp reduction in mergers and acquisitions. They have recently benefited from the much lower interest rates charged on debt. Meanwhile, their income has held up reasonably well and they have raised large quantities of new capital. As a result, these companies increased their sterling borrowing from banks and building societies by only £0.6 billion during 1992 and, having repaid £2.2 billion of such debt during the first quarter, increased their borrowing by a further small amount in the second quarter. They also repaid £2.0 billion of foreign currency borrowing during 1992 and a further £4.3 billion in the first half of 1993 alone. Meanwhile, they raised £8.3 billion from sterling capital issues during 1992 and £8.2 billion in the first half of this year (see Chart 2.5). Overall, it is clear that loans are only one of several sources of finance for companies.

Chart 2.5
Estimated total quarterly sterling borrowing by ICCs



The Bank's Divisia index of transactions money(1) rose by 0.8% in the second quarter, compared with 1.4% in the previous quarter. The annual growth rate of Divisia reached its lowest level in the fourth quarter of 1992 at 2.7% and has since increased to 3.6% (see Chart 2.1). The personal sector index increased by 0.9% in the second quarter and the corporate sector index by 0.4%. The slowdown in the growth of Divisia during the second quarter is consistent with the behaviour of M0—the growth of which also decelerated in the second quarter—and M4.

(1) Described in 'Divisia measures of money', *Bank of England Quarterly Bulletin*, May 1993.

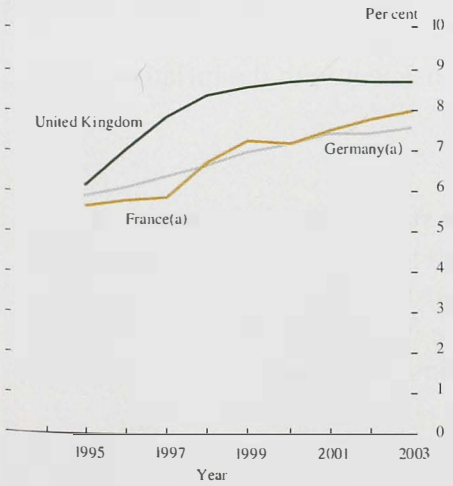
Table 2.A
Official interest rates overseas

Per cent per annum

	1992		1993		
	1 Sept.	1 Dec.	1 Mar.	7 May	2 Aug.
United States:					
Prime	6.0	6.0	6.0	6.0	6.0
Discount	3.0	3.0	3.0	3.0	3.0
Japan:					
Discount	3.25	3.25	2.50	2.50	2.50
Call	4.10	3.90	3.20	3.20	3.30
Germany:					
Discount	8.75	8.25	8.00	7.25	6.75
Lombard	9.75	9.50	9.00	8.50	7.75
France:					
Intervention	9.6	9.1	9.1	8.0	6.75
5–10 day repo	10.5	10.0	12.0	9.0	10.00(a)
Italy:					
Discount	13.25	13.0	11.5	11.0	9.0
Advances	14.75	14.0	12.5	12.0	10.0

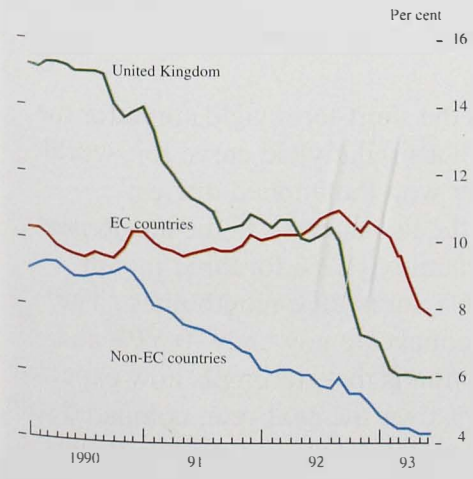
(a) 24 hour repo.

Chart 2.6
Implied annual forward interest rates



(a) Source: Midland/Global markets.

Chart 2.7
UK and trade-weighted 3-month interest rates



Interest rates

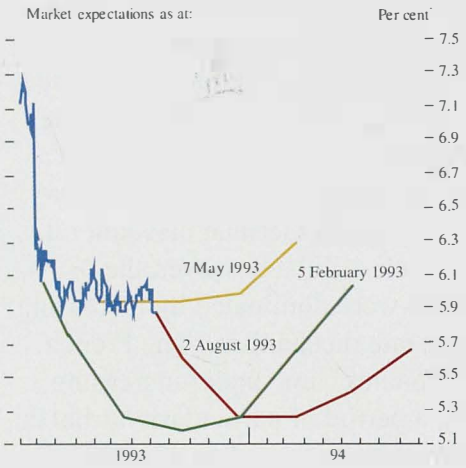
Official interest rates in the United Kingdom have not changed since the one percentage point reduction on 26 January, which prompted banks to reduce their base rates from 7% to 6%. In other European countries rates fell during the second quarter (see Table 2.A) and for a short period at the end of June the French intervention rate (then at 7%) stood below the German discount rate (then 7.25%). During much of July, however, the foreign exchange markets were dominated by increasing tensions in the exchange rate mechanism. The French, Belgian and Danish currencies came under increasing pressure and, following a period of particularly turbulent conditions with all three currencies trading near their lower margins despite central bank intervention, an emergency meeting of the EC Monetary Committee was convened over the weekend of 31 July/1 August. The outcome was that from 2 August the ERM bands for all currencies except the deutschmark and the Dutch guilder were widened temporarily to 15%. Chart 2.6 illustrates that implied forward rates (derived from government bond yield curves) continue to show virtual parity between French and German interest rates.

Chart 2.7 shows three-month interest rates for the United Kingdom and weighted averages for EC and non-EC countries, with the weights the same as those in sterling's effective exchange rate index. The gap between UK and EC rates is currently around two percentage points but markets expect that this gap will narrow towards the end of the year, as further falls in other EC interest rates take place.

For most of the three months since the last *Report*, market expectations were that UK base rates would remain at 6% for the rest of 1993. However, the recent strengthening of sterling, particularly against the deutschmark, has revived market expectations of a further cut in interest rates. Three-month sterling interest rates (see Chart 2.8, derived from interest rate futures prices) were expected at the beginning of August to fall to 5.3% by December, against a rate of 6% at the time of the last *Report*.

Looking further ahead, Chart 2.9 shows how implied forward interest rates have changed. The derivation of these implied rates is from the gilt par yield curve. As explained in the last *Report* and the box in Section 6, they represent a succession of one-year interest rates at future one-year intervals which would, if realised, generate the same return as the gilt yields over the

Chart 2.8
Sterling interest rate expectations[a]



(a) Based on a combination of sterling interest rate future contracts.

Chart 2.9
Implied forward interest rates

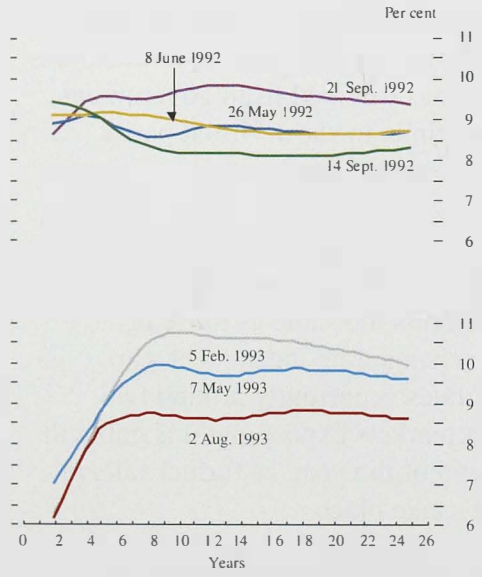


Table 2.B
Sterling exchange rates

	15 Sept.	31 Dec.	5 Feb.	7 May	2 Aug.
Sterling ERI	90.9	79.6	77.7	80.9	81.4
US dollar	1.89	1.52	1.45	1.58	1.49
Deutschmark	2.78	2.45	2.40	2.49	2.56
ECU	1.38	1.26	1.23	1.27	1.36
SDR	1.31	1.10	1.06	1.11	1.07

equivalent maturity. The 'no' vote in the Danish referendum on 2 June 1992 led the market to expect a sharp rise in interest rates between five and twelve years out. Tensions within the ERM heightened over the summer and, immediately after sterling's membership was suspended on 16 September 1992, the yield curve sloped up for the first time since 1988. This reflected both a fall in short yields in anticipation of lower official interest rates and a rise in long yields, consistent with market expectations of higher inflation.

Since the beginning of this year, however, inflation expectations have steadily been revised downwards as the credibility of the new monetary framework has increased, although implied forward rates at the long end are still slightly higher than before departure from the ERM. The yield curve implies that interest rates are expected to rise to around 8.5%, approximately 100 basis points lower than in May and 150 basis points lower than in February. This continuous improvement in expectations is encouraging, but it is not clear that expectations are yet consistent with the inflation target.

The exchange rate

The effective index for sterling has fluctuated in a narrow range around 80 to 81 since the last *Report*; it stood at 81.4 on 2 August, against 80.9 then. Sterling has fallen by 10% since its suspension from the ERM; within this the fall against EC countries is 4% and non-EC countries 16%.

During May and June sterling was weakened by occasional political uncertainty, but it has strengthened over the past month against a particularly weak deutschmark. Sterling has fallen against the dollar, which has been underpinned by a belief that the growth prospects for the United States are relatively strong.

Chart 2.10 compares the short-term yield curve for the United Kingdom with a similar yield curve for 'world' interest rates, together with the implied interest differential between the two curves. In the last *Report* the differential was roughly -1.2% for three-month interest rates and -0.6% for twelve-month rates. The corresponding differentials are now only -0.52% and -0.13%. The implication is that sterling is now expected to rise by about 0.13% over the next year, compared with an expected rise of 0.6% at the time of the last *Report*.

Chart 2.10
UK trade-weighted world interest rate yield curves (June 1993)

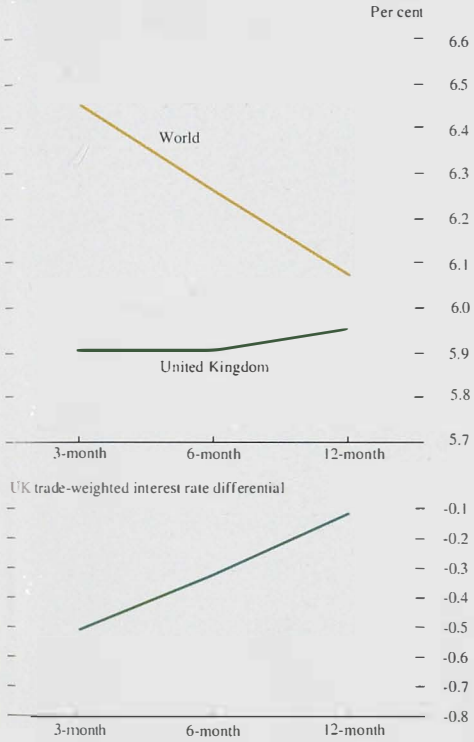


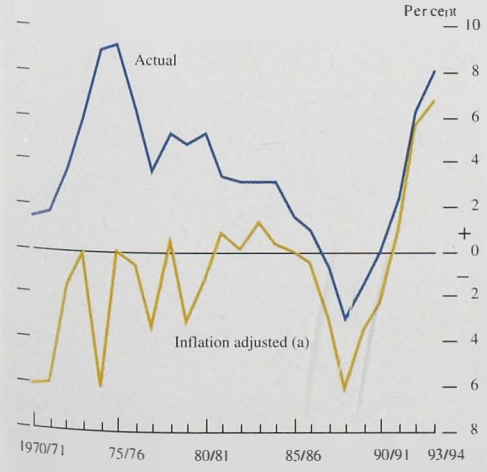
Table 2.C
General government financial balances and debt levels in the G7 countries

As a percentage of GDP, calendar year

	Overall balance		Primary balance		Gross debt	
	1991	1992	1991	1992	1991	1992
United States	-3.4	-4.7	-1.1	-2.5	59.8	63.2
Japan	3.0	1.8	3.3	2.0	68.2	66.2
Germany	-3.2	-2.8	-1.0	-0.1	42.0	43.2
France	-2.1	-3.9	0.5	-1.0	48.6	51.6
Italy	-10.2	-9.5	-0.5	1.4	104.0	108.1
Canada	-6.1	-6.4	-0.6	-1.0	77.6	83.0
United Kingdom	-2.9	-6.7	-0.9	-4.8	35.4	41.0

Source: *OECD Economic Outlook 53*, June 1993.

Chart 2.11
PSBR to GDP ratio



Data from 1992/93 are based on Treasury Forecasts.

(a) Calculated by adjusting the PSBR for the impact of changes in the GDP deflator on the nominal value of net public sector debt.

2.2 Fiscal policy

The Budget forecast put the PSBR for 1993/94 at around £50 billion, some 8% of GDP. Part of this deficit is 'cyclical'—the result of the economy being below its long-run growth path. As the economy recovers, reducing unemployment-related spending and boosting tax revenues, the deficit will automatically decline. Nevertheless, projections in the 1993/94 Financial Statement and Budget Report (FSBR) show the PSBR remaining as high as £30 billion, or 3¾% of GDP, in 1997/98. The ratio of debt to GDP is, on current policies, likely to increase for some years to come.

Although large, the United Kingdom's overall deficit in 1992 was similar to Canada's and much less than Italy's (Table 2.C). However, the primary deficit—the deficit excluding debt interest payments—was much larger than in any other G7 country. This is important, because a primary deficit means that the ratio of debt to GDP is likely to continue rising until the deficit is eliminated.

An alternative way of measuring the deficit is to adjust the PSBR for inflation. Inflation erodes the real value of the outstanding stock of public debt. A simple inflation adjustment, shown in Chart 2.11, illustrates the effect of inflation on the real value of outstanding public sector debt. High inflation during the 1970s sharply reduced the real value of debt, more than offsetting the effect of large PSBRs. By contrast, lower rates of inflation in recent years, together with the smaller size of the debt in relation to GDP, have all but eliminated the discrepancy between the actual and inflation-adjusted PSBR. As a consequence, the inflation-adjusted deficit is now higher than at any time since the second world war.

Deficits have to be financed and the borrowing incurs interest which must be paid in future, thereby adding to later deficits. This cumulative effect can damage the credibility of anti-inflationary policies, by increasing the potential benefits to the government of financing the deficit by money creation at some time in the future. If the inflation target is to be met, the real burden of debt cannot be reduced by unexpected inflation, as was the case in the 1970s, but must be tackled by bringing revenues and expenditures closer to balance. The Government has already announced a number of measures to generate sizable increased revenues over the next three years.

This, together with continued adherence to existing government spending plans, will help to bring about a reduction in the deficit over the medium term. Further fiscal action may be required as the Government has recognised.

Demand and output 3

In the short run, real demand and output affect the rate at which inflation adjusts to the level implied by the underlying monetary stance. The existence of an 'output gap'—when output is below its trend—will, other things being equal, tend to reduce inflation. That is indeed what has happened over the past three years. A gradual recovery in demand and output is now under way, but the output gap may take several years to close.

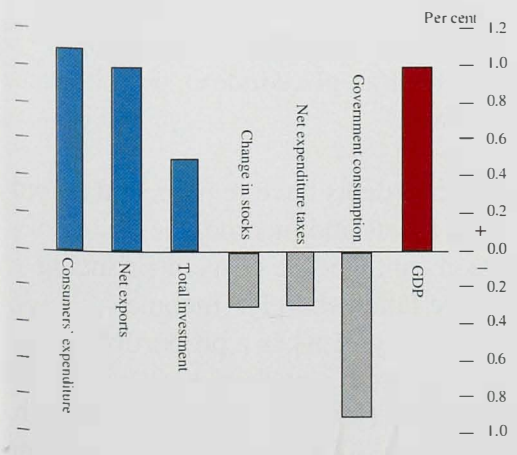
Table 3.A
Expenditure components of GDP at constant prices, 1993 Q1

Percentage changes

	Quarterly changes	Twelve-month changes
Consumers' expenditure	0.5	2.3
Public consumption	-1.0	-2.6
Investment	0.8	1.4
Stockbuilding(a)	-0.2	-0.9
Domestic demand	0.1	0.4
Exports	3.3	6.0
Total final demand	0.8	1.7
Imports	1.9	3.6
GDP(b)	0.4	0.9

(a) Contributions to GDP growth.
(b) Expenditure estimate at factor cost.

Chart 3.1
Contributions to the growth in GDP (1992 Q2–93 Q1)



3.1 Demand

The significant easing of monetary policy, especially since last autumn, should result in a gradual increase in demand and output relative to trend. The reduction in interest rates will encourage growth in domestic demand, and the depreciation of sterling will boost demand for tradable goods—both for exports and for those domestic goods that compete with imports.

In the year to 1993 Q1, the volume of total final demand rose by 1.7%. This consisted of a 0.4% increase in domestic demand and a 6.0% rise in exports of goods and services; imports rose less rapidly, by 3.6% (see Table 3.A). However, because consumer spending is such a large proportion of GDP, it contributed more than *net* exports to the growth in total expenditure between the trough in activity (1992 Q2) and the first quarter of this year (see Chart 3.1).(1) Total investment has also risen, including public sector investment. But it is striking that public consumption fell by no less than 2.6% in a year, largely as a result of the fall in defence procurement. Although part of the increase in total demand has been met through a rundown in stocks, output in the economy as a whole had risen 1% above its trough by the first quarter of this year.

Personal spending

The volume of personal expenditure has been rising steadily since its trough in the first quarter of last year. Consumers' expenditure increased by 0.5% in 1993 Q1 and by 2.3% in the year to the first quarter. The volume

(1) For non-oil GDP, the trough was reached in the first, not the second, quarter of last year.

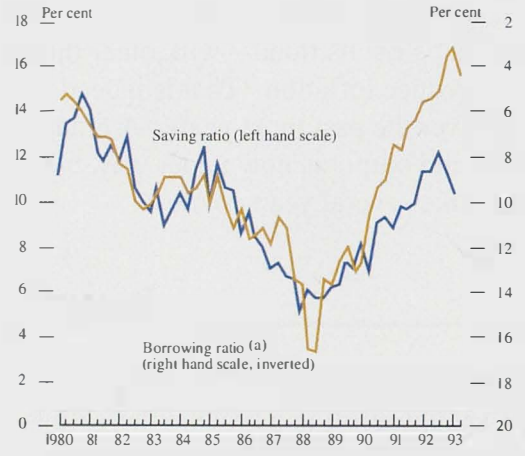
of retail sales (40% of total personal spending) increased by 0.5% in 1993 Q2 after growth of 1.7% in the first quarter. Until the autumn, the recovery in consumer spending came from an increase in personal disposable income, while the personal saving ratio continued to rise. The saving ratio has been higher than might have been expected, given the large falls in both nominal interest rates and price inflation over the past three years. This almost certainly reflects the unprecedented increase in personal indebtedness during the second half of the 1980s.

Over the last decade, changes in the personal saving ratio have normally led to changes in borrowing from banks and building societies rather than changes in holdings of financial assets. Until last autumn the rise in the saving ratio was matched by a decline in borrowing relative to disposable incomes (see Chart 3.2). Falling house prices, however, meant that capital gearing—outstanding borrowing as a proportion of financial and physical assets—continued to rise (Chart 3.3). The number of people with negative equity peaked at 1.8 million in the first quarter of this year, according to Bank calculations (using the Halifax Building Society's index of house prices)—their negative equity amounted to nearly £12 billion (using the Department of the Environment's house price index gives smaller numbers, 1 million and £5.6 billion respectively). But house prices have now stabilised, and the volume of transactions in the housing market has been on an upward trend since the end of last year. As a result, the number of home-owners with negative equity is estimated to have fallen to 1.4 million in the second quarter (based on the Halifax price index), with its value almost one quarter lower.

Although personal sector debts have remained at record levels relative to both assets and income, the easing of monetary policy has meant that the costs of financing outstanding debts have fallen sharply. Income gearing—gross interest payments as a proportion of disposable income—fell from a peak of 14.3% in 1990 Q2 to about 8½% in 1993 Q1. Since borrowing by the personal sector exceeds its deposits (by £38.4 billion at the end of 1992), lower interest rates will also have boosted the sector's net income.

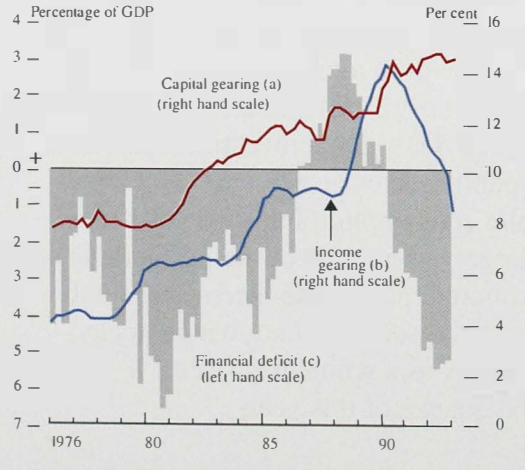
In sharp contrast to other major economies most household debt in the United Kingdom is on floating rates. But recently there has been a striking increase in fixed-rate mortgages: the Council of Mortgage Lenders (CMLs) estimate that in the first quarter of 1993 35% of

Chart 3.2
Personal sector savings and borrowing



(a) Bank and building society borrowing by the personal sector as a proportion of personal disposable income. (Personal disposable income for 1993 Q2 is a Bank estimate.)

Chart 3.3
Personal sector gearing and financial deficit



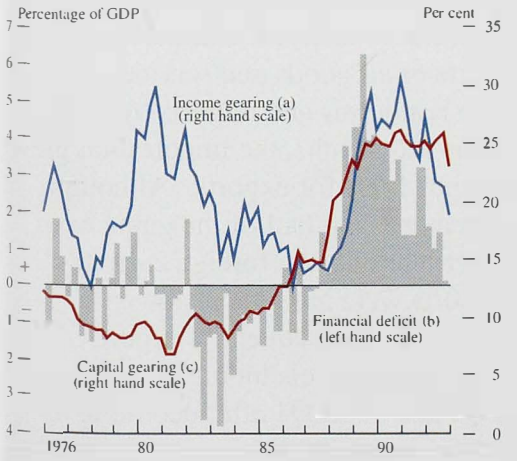
(a) Borrowing from banks and building societies as a proportion of personal sector financial and physical assets.
(b) Gross personal sector interest payments as a proportion of personal disposable income.
(c) Financial deficit as a proportion of GDP (+ means deficit/ - means surplus).

new mortgages were on a fixed-rate basis. Such mortgages account for an estimated 7%–8% of the value of all *outstanding* mortgages.

Investment and stockbuilding

The volume of investment in the economy as a whole reached a trough in the second quarter of last year. Between then and the first quarter of 1993 it rose by 2.4%. Within that total, the volume of public sector investment has grown strongly—up by 9.6% last year—and should continue to do so this year. This is partly because of the relaxation of the rules for use of local authority capital receipts announced in last year's Autumn Statement. Across the whole economy, stocks fell by an estimated £600 million and £800 million (1985 prices) in 1992 Q4 and 1993 Q1 respectively. Clearly this destocking cannot continue for much longer: the CBI monthly trends enquiry shows that during the second quarter the balance of firms with more than adequate stocks of finished goods was at its lowest for 12 months.

Chart 3.4
Corporate sector gearing and financial deficit



(a) Ratio of net interest payments to post-tax income.
(b) Financial deficit as a proportion of GDP (+ means deficit/ - means surplus).
(c) Ratio of outstanding borrowing (debt at nominal value to capital stock at replacement cost).

In 1992, business sector investment as a percentage of GDP was nearly three percentage points higher than in its previous trough in 1983. But higher investment has been mirrored by a larger financial deficit in the recent recession (Chart 3.4). The deficit was virtually eliminated in the first quarter, but the effects of prolonged periods of large financial deficits and borrowing requirements may continue to limit growth in company spending for some time. This is because steady increases in internal funds may still be insufficient to finance marked increases in investment from levels which are already high by historical standards and, following the rapid increases in debt in the late 1980s, firms may be reluctant to run large financial deficits again.

The CBI's July Industrial Trends Survey is consistent with a slow recovery in investment. The balance of firms expecting to increase investment in plant and machinery over the next twelve months was still negative, at -3%, but this compares with a balance of -8% in the April survey, and more firms reported that plant capacity is acting as a constraint on production. But the balance of firms planning to increase investment in buildings was -20%, unchanged from the previous quarter.

The latest CBI data reveal that only a balance of 11% of firms are more optimistic about their business situation,

compared with 31% in April. Export prospects are a major cause of reduced optimism; a balance of 1% of firms expect the volume of export orders to fall in the next four months. Other data suggest that business confidence continues to increase. The Dun and Bradstreet Survey across all industries shows sales expectations continuing to improve slowly. The British Chambers of Commerce Survey reported a slight increase in the balance of firms expecting profitability to increase in the next quarter. In the financial sector, the CBI/Coopers and Lybrand Survey for the second quarter shows that a large balance (+28%) of firms are more optimistic about business prospects than they were three months earlier. Optimism also appears to be growing in construction according to the Building Employers' Confederation Survey.

Overseas trade

Provisional figures on UK trade with all countries are now available for 1993 Q1.(1) The data suggest that the impact of last year's sterling depreciation along with the United Kindom's superior performance on unit costs has begun to feed through into higher net export volumes. Between the third quarter of last year and the first quarter of this, exports of all goods and services increased by 4.4% in real terms and imports by only 1.2%. In the previous six months, the import total grew by 2.3% compared with 1.6% for exports. Although exporters have taken more than half of the gains from depreciation in higher margins, the foreign currency prices of non-oil exports were around 5% lower in 1993 Q1 than in 1992 Q3. Consequently, export volumes of goods and services, excluding oil, rose by 5% between 1992 Q3 and 1993 Q1 after declining by 0.3% between 1992 Q1 and 1992 Q3.

Table 3.B
UK trade volumes in non-oil goods (excluding erratics)

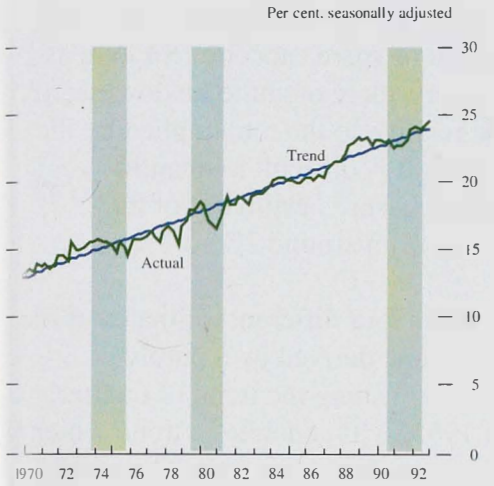
Percentage changes

	Exports		Imports	
	1992 Q1–1992 Q3	1992 Q3–1993 Q1	1992 Q1–1992 Q3	1992 Q3–1993 Q1
EC	0.3	0.9	3.1	-0.3
Non-EC	4.3	7.3	4.5	8.7
Total	2.1	4.3	3.7	3.6
Memo:				
Total goods and services	1.6	4.4	2.3	1.2

Trade with the EC has grown much more slowly than with non-EC countries since the autumn (see Table 3.B). Whereas exports to the non-EC area rose by 7.3% over the period, those to the EC increased by only 0.9%. Part of the discrepancy can be explained by the fact that between 1992 Q3 and 1993 Q1 sterling fell 17½% against the non-EC area but by only 10½% against the EC. Also demand has been growing much more slowly in the EC than elsewhere in the world. To take one example, domestic demand grew in the United States by 0.3% in 1993 Q1 and by 3.3% in the year to the first

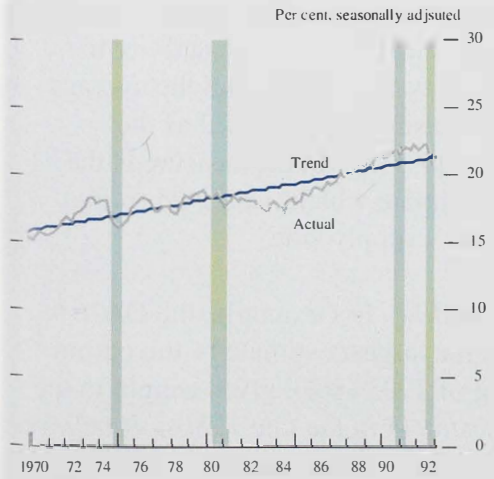
(1) The figures, however, should be treated with more than the usual caution. With the completion of the single market, EC data are now measured on the basis of VAT returns rather than the previous practice based on customs and excise declarations.

Chart 3.5
Import penetration[a] in the United Kingdom



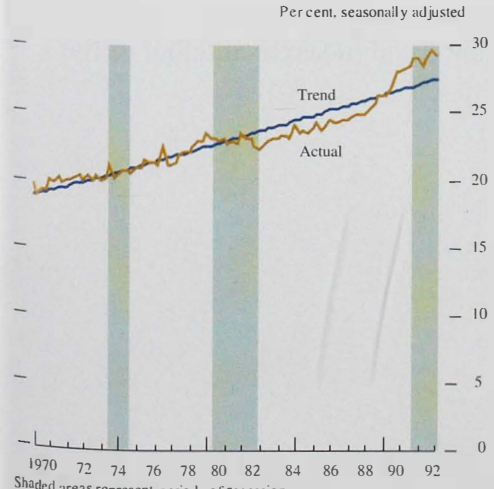
Shaded areas represent periods of recession.
(a) Volume of imports of non-oil goods and services as a share of total final expenditure.

Chart 3.6
Import penetration[a] in France



Shaded areas represent periods of recession.
(a) Volume of imports of goods and services as a share of total final expenditure.

Chart 3.7
Import penetration[a] in Germany



Shaded areas represent periods of recession.
(a) Volume of imports of goods and services as a share of total final expenditure.

quarter; whereas in Germany it fell by 2.0% and 3.5% respectively. Domestic demand also fell during the second half of last year in Italy (-1.6%) and rose only slightly in France (0.1%). Although demand is likely to grow quite strongly in North America and the developing world for the rest of this year, it is likely to be flat in Japan and to fall in continental Europe. Further strong growth of UK export volumes will therefore depend on exporters taking a larger share of a sluggish world market.

Even though sterling has depreciated furthest against non-EC currencies, non-oil imports of goods (excluding erratics) from outside the EC rose rapidly (8.7%) between 1992 Q3 and 1993 Q1, while imports from the EC fell slightly (0.3%). The United Kingdom's visible balance with the EC has therefore improved slightly since the autumn despite a deterioration in the terms of trade and a decline in demand on the Continent. More recent data available for trade with countries *outside* the EC show that, during the second quarter, and excluding oil and erratic items, the volume of both exports to and imports from them have risen significantly. The particularly strong growth in exports meant that net trade volumes made a further positive contribution to growth.

Usually during a recession, imports decline more rapidly than total final demand. During the recent recession, import penetration—import volumes of non-oil goods and services as a proportion of total final demand—continued to increase (see Chart 3.5). Despite the improvement in UK competitiveness since last autumn, the rise in penetration has continued; by 1993 Q1, non-oil import volumes represented 24% of final demand. But import penetration has also increased in France—at a rate similar to Britain's since the mid-1980s—and Germany (see Charts 3.6 and 3.7).

3.2 Output and the output gap

GDP rose by 0.4% in the first quarter of 1993 (and by 0.7%, excluding oil, the largest quarterly increase in four years). Chart 3.8 shows that manufacturing recovered particularly strongly, but the increase was broadly based; industrial production rose by 0.2%, and service sector output by 0.7%. The preliminary estimate of GDP in the second quarter suggests that the recovery has continued, with a further rise of 0.5% in non-oil output.

Chart 3.8
Domestic output

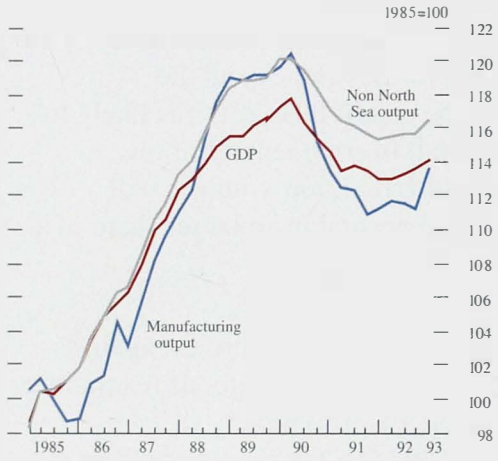
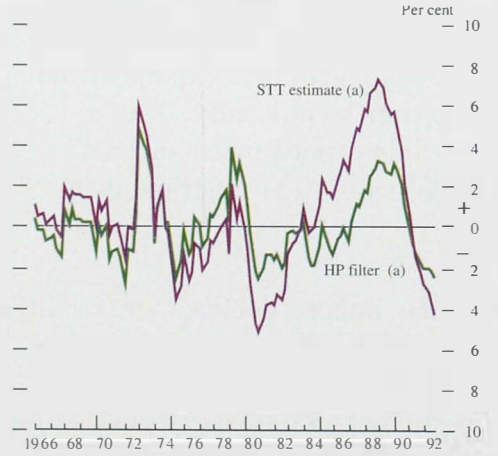
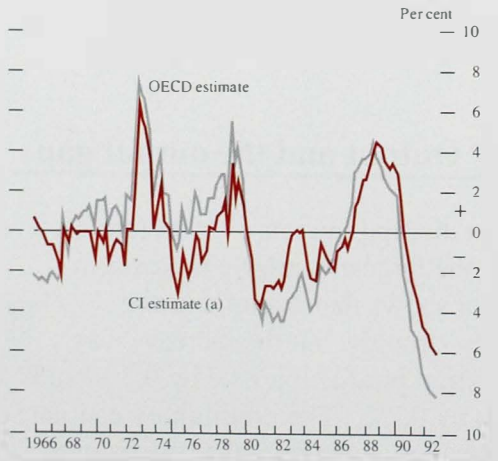


Chart 3.9
Output gap estimates



(a) Split-time-trend.
(b) Hodrick-Prescott filter.

Chart 3.10
Output gap estimates



(a) Coincident indicator.

The CBI Quarterly Survey showed that the proportion of manufacturing companies working below capacity fell from 73% in January to 63% in July, but this still points to a large amount of spare capacity. So long as firms have spare capacity, there ought to be downward pressure on inflation relative to the rate implied by the monetary policy stance. It is difficult to quantify current disinflationary pressure: estimates of the current output gap vary from around 2% to 7%.

Charts 3.9 and 3.10 show four different estimates of the output gap. The first is one derived by a purely statistical method of establishing the trend of quarterly non-oil output from 1955.(1) It generates a trend which changes smoothly from quarter to quarter. The second approach is based on econometric estimates of the trend growth rate between those quarters in which the economy is believed to have been on trend (the so-called 'split-time-trend' approach). The estimated trend growth rate changes discretely and less frequently than under the first method. The third measure uses the CSO's coincident indicator of economic activity to determine when output was on trend, and the average growth rate between these periods is used as the estimate of trend growth. The fourth measure is the OECD's output gap estimate which is derived from a model of the economy's supply side.

The estimates vary widely. For example, the OECD measure, which has the largest estimate of the output gap at the beginning of 1993 (8%), gives weight to the rapid growth of investment in the late 1980s. It believes that this created substantial spare productive capacity despite some scrapping of obsolete capital during the recession. By contrast, the statistical trend produces an output gap of about 2½%; and the split-time-trend method a gap of just over 4%, about the same as in the early 1980s. The coincident indicator estimate lies between the split-time-trend measure and that of the OECD.

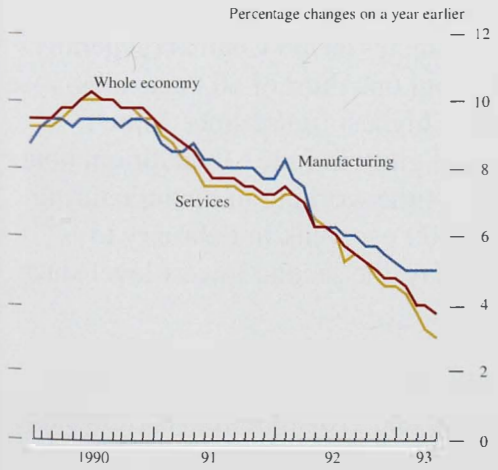
(1) The trend was estimated using the Hodrick-Prescott filter.

The labour market 4

4.1 Earnings and settlements

Pay inflation continues to fall. In the economy as a whole the twelve-month rise in earnings declined from 4.3% in February to 3.7% in May. Earnings in services have been growing more slowly—by 2.9% in the year to May. The Employment Department's measure of the underlying increase in whole economy earnings declined from 4½% in February to 4% in March and April and 3¾% in May (see Chart 4.1). In contrast, the underlying annual rise in earnings in manufacturing has remained at 5.0% since February.

Chart 4.1
Underlying earnings growth



Wage settlements have also been falling (the box on page 313 discusses the relationship between settlements and earnings). According to the Industrial Relations Services (IRS) measure, the median whole economy settlement declined from 3.0% in the first quarter to 2.0% in the second. The decline is attributable to lower private sector settlements, since public sector settlements have remained at about 1.5%. IRS estimates that the median private sector pay rise fell from 2.75% in the three months ending in April to 2.3% in the three months to June. However, another pay research group, Incomes Data Services, reports that private sector settlements have stabilised in recent months.

In the services sector, the settlements surveyed by the CBI averaged 2.5% in the three months February-April. In manufacturing, CBI figures show that settlements averaged 2.1% in the same period, the lowest figure recorded by the CBI Pay Databank since it was started in 1977.

IRS reports that there is no sign of a decline in the number of settlements which are being postponed. However, the CBI reports that the proportion of manufacturing firms which had postponed settlements for six months or more fell from 26.3% in January to 21.7% in April, with companies in services slightly more likely than manufacturing to postpone. These deferrals depress current earnings growth, and may therefore paint a misleading picture: where the subsequent increase has been agreed at the time of postponement, the pay increases eventually granted tend to be above the median settlement at the time of deferral. Some firms have

Chart 4.2
Whole economy change in employment and unemployment

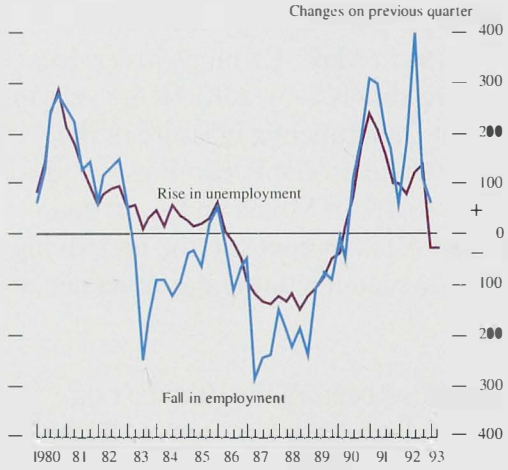
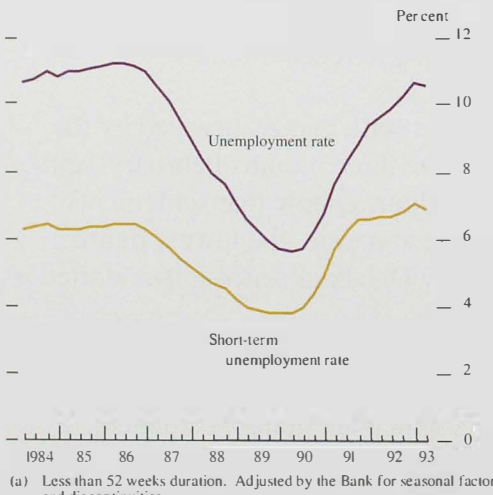


Chart 4.3
Unemployment and short-term unemployment(a)



(a) Less than 52 weeks duration. Adjusted by the Bank for seasonal factors and discontinuities.

introduced bonus schemes or lump sum payments as partial compensation for postponing increases in basic pay.

Recent falls in unemployment could mean that one restraint on pay is weakening. Unemployment has fallen by 83,100 since the beginning of the year and the jobless rate has declined from 10.6% of the labour force in February to 10.4% in June. But recent falls in unemployment have not yet been matched by rises in employment—whereas, after the last recession, employment started growing in 1983, but unemployment rose until 1986 (see Chart 4.2).

This makes it difficult to judge the changing pressures in the labour market. Some indication of the demand for labour comes from overtime in manufacturing, where hours increased by 0.3 million (seasonally adjusted) between January and May. Vacancy figures also provide some evidence of a small increase in the demand for labour: from a low of 111,500 in September 1992, the number of unfilled vacancies at Job Centres (generally estimated to record about one third of all vacancies) rose to 123,600 in May (the highest figure since March 1991)—though it fell slightly in June. In addition, hours lost as a result of short-time working in manufacturing fell sharply from 760,000 per week in February to 260,000 per week in May, the second lowest level since the recession began.

The May *Inflation Report* examined the relationship between unemployment and growth in real earnings and settlements. The evidence suggested that unemployment has a small depressing effect on real wages. It is sometimes argued that it is the change in unemployment, rather than the level, which influences wage growth. When unemployment is rising, those in work are more likely to become unemployed and the jobless are less likely to find a job. But when unemployment is constant or falling, the currently employed feel more secure in their jobs. Some wage equations incorporate only changes in unemployment in the wage equation; research in the Bank suggests that both levels and changes are influential.

From all this research, one thing is clear: only the unemployed who are actively looking for work exert downward pressure on wages. Those who have been long out of work are less effective at competing for jobs, and so should be given less weight in a measure of the effective excess supply of labour. Chart 4.3 shows both the conventional unemployment rate and the rate for

The link between wage settlements and earnings inflation

Wage settlements are often thought to 'lead' earnings growth because they are inherently forward-looking: settlements determine the pay of the settlement group for the coming period (one year ahead in the case of annual settlements). Do settlements data help to predict future earnings growth? The answer could help to assess whether earnings growth might decline further in response to the rapid fall in wage settlements over the last 2½ years.

A wage settlement may be defined as the annual (or annualised) increase in the basic wage. Basic wages comprise about three quarters of total earnings. In addition to the basic wage, earnings include overtime, bonus and shift payments (changes in these cause what is termed 'wage drift'). Pay settlements clearly affect workers' earnings so there will be a close relationship between settlements and earnings growth.

Specifically, settlements data might appear to foreshadow earnings growth because of differences between the samples surveyed when actual earnings and settlements data are collected. The CBI, which is the source of manufacturing settlements data, and IRS, which cover the whole economy, survey those groups which they know to be settling currently. Settlements data therefore capture the wage increase of only those who settle in the current period. In contrast, average earnings figures refer to all workers in the economy, so the annual increase in earnings will reflect the wage increases of *all* workers, no matter when they last settled. This means that earnings figures should represent a weighted average of settlements data over the past year, and that past settlements affect current earnings. The weights on lags of settlements will reflect the proportion of the workforce settling in the particular period.

In fact, actual earnings and settlements data do not support these seemingly convincing arguments. Charts A and B suggest that turning points in settlements and earnings growth (where it is easiest to see whether series lag or lead) roughly coincide—if anything, earnings growth appears to lead settlements. For example, in 1990, whole economy earnings growth peaked in August, between two and four months before settlements. Statistical tests confirm the impressions from the charts.

One explanation for these counterintuitive findings might be that in negotiating current settlements, negotiators have in mind recent earnings increases as easily observable indicators of some 'going rate' on which they wish to base their wage settlement.

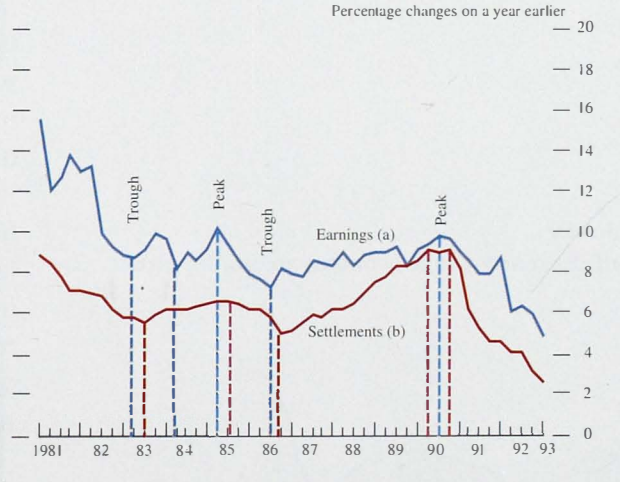
Firms can react to unanticipated events which occur between settlement dates by adjusting earnings. Settlements are negotiated only periodically—normally once a year. They will be based on negotiators' expectations of factors such as price inflation, product and hence labour demand over the settlement period. Earnings can adjust quickly to shocks to any of these between settlement dates. The next settlement will take into account components of those shocks which are perceived as permanent. For example, overtime hours and pay will tend to rise when output rises in response to a positive demand shock, assuming firms find it difficult or costly to hire labour. In these conditions, if the shock is perceived to be permanent, subsequent wage settlements are likely to be higher since firms will need to pay more to recruit and retain labour, and the firm's workforce will be in a relatively strong bargaining position.

This may explain why earnings appear to lead settlements. The implication is that attention should be paid to increases in other elements of pay in addition to settlements when predicting settlements and earnings inflation.

Chart A
Whole economy earnings growth and settlements

(a) CSO average earnings.
(b) IRS settlemnts over the last three months.

Chart B
Manufacturing earnings growth and settlements



(a) CSO average earnings.
(b) CBI settlements.

those out of work for less than a year (the number of short-term unemployed has been adjusted as far as possible to be consistent with the current definition of unemployment). The short-term jobless rate at the end of 1992 was probably higher than at any time in the 1980s, which helps to explain why pay inflation has been falling rapidly and has reached its lowest level for 26 years.

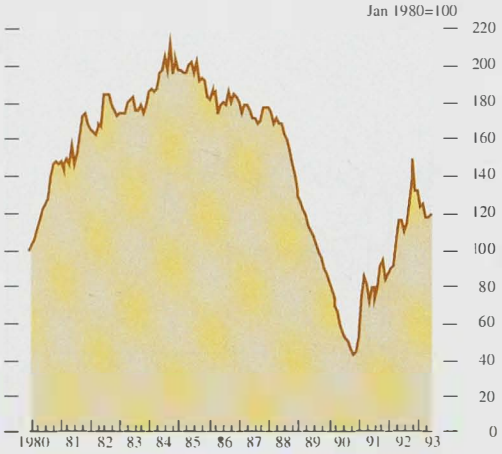
Furthermore, the participation rate—the proportion of people of working age in work or seeking it—moves with the cycle. After a rise during the second half of the 1980s, it fell from 83.1% in 1990 to 81.9% in 1992. This implies that, during a recession, the recorded level of unemployment will understate the amount of slack in the labour market as employment prospects improve. Those re-entering the job market will help to hold down pay rates.

The effectiveness of the unemployed in finding work may be reduced by 'regional mismatch'—imbalances between the distribution of vacancies and unemployed workers across the country. As Chart 4.4 shows, mismatch moves cyclically, increasing with rising unemployment. However, it is now well below its level in 1984 and 1987, when unemployment was similarly high, so upward wage pressure from mismatch should be less than it was then. Chart 4.5 shows that the share of unemployment in the South East rose strongly during the recent recession. Any disproportionate increase in unemployment in the South East appears temporarily to reduce the growth rate of real wages.

Skill shortages are often cited by managers as a factor which tends to increase wages. The July CBI Industrial Trends Survey found that 5% of firms considered that a lack of skilled labour was limiting their output. Although this was higher than the January figure, skill shortages have been a problem for under 10% of firms for eleven successive quarters.

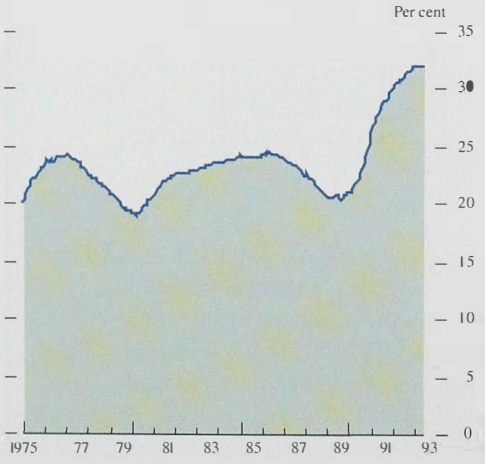
In summary, recent falls in unemployment may overstate the true tightening of the labour market. There are still strong downward pressures on the rate of pay increases, stemming from firms' unwillingness to raise prices while demand is so uneven; and a high level of short-term unemployment. These factors are likely to subdue earnings growth during the next year.

Chart 4.4
Regional mismatch[a]



(a) Mismatch measures the sum of the absolute deviations of regional unemployment vacancy ratios from the national average.

Chart 4.5
South East and whole economy unemployment[a]



(a) As a proportion of the total.

Table 4.A
Contributions of earnings and productivity to unit wage costs

(a) Whole economy

Percentage changes on same period in previous year

		Output	Employment	Labour productivity	Earnings per employee	Unit wage costs
1990		0.7	0.7	-0.1	9.9	10.1
1991		-2.5	-2.8	0.3	7.9	7.5
1992		-0.5	-2.7	2.3	6.5	4.1
1992	Q1	-1.3	-2.9	1.6	8.8	7.0
	Q2	-0.5	-2.4	1.9	6.6	4.5
	Q3	-0.4	-2.8	2.5	5.2	2.8
	Q4	0.2	-3.0	3.2	5.4	2.0
1993	Q1	1.0	-2.9	4.0	3.0	-1.0

(b) Manufacturing industry

Percentage changes on same period in previous year

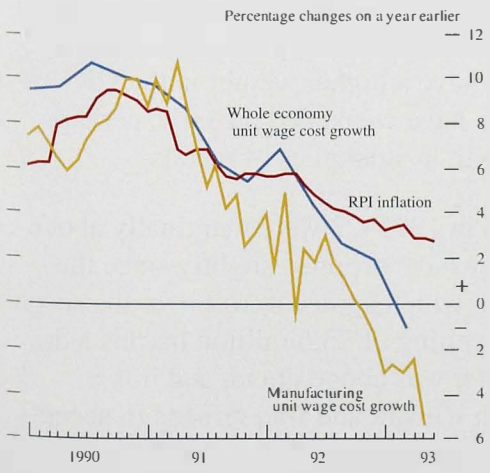
		Output	Employment	Labour productivity	Average earnings	Unit wage costs
1990		-0.5	-1.9	1.5	9.4	7.8
1991		-5.2	-6.6	1.5	8.2	6.5
1992		-0.7	-5.5	5.1	6.6	1.5
1992	Q1	-1.9	-6.6	4.9	8.6	3.6
	Q2	-0.7	-5.1	4.6	6.0	1.2
	Q3	-0.7	-4.7	4.2	6.2	1.9
	Q4	0.4	-5.6	6.3	5.7	-0.6
1993	Q1	2.2	-5.4	8.0	4.8	-3.0

4.2 Labour productivity and unit wage costs

When firms find it cheap and easy to adjust the size of their workforces, employment changes coincide closely with changes in output. This is in contrast to the UK experience in past recessions, when employers 'hoarded' labour. During this recession productivity growth has been higher than in previous downturns, which is consistent with the labour market being more flexible. The twelve-month growth of productivity in the economy as a whole continued to increase in the first quarter, reaching 4%. In manufacturing, productivity was 8.0% higher than in 1992 Q1, and later monthly figures show no sign of a slowdown. However, if there has been less labour hoarding than in earlier recessions, productivity growth will not increase as rapidly in this recovery as in the past.

The strong growth in productivity combined with the low growth in earnings produced a remarkable outturn for unit wage costs (see Table 4.A). In manufacturing, wages and salaries per unit of output fell over 5.0% in the year to May 1993. Whole economy unit wage costs also fell, by 1.0% in the year to 1993 Q1 (see Chart 4.6). This pattern is unlikely to be repeated, but the growth of unit wage costs is likely to remain low for some time.

Chart 4.6
RPI inflation and unit wage cost growth



5 Price dynamics

5.1 External influences on inflation

Commodity prices

Commodity prices affect domestic inflation in two ways. First, and directly, through changes in the prices of imports of raw materials and foods;[1] and second, indirectly, via their influence on the foreign currency prices of goods and services produced by the United Kingdom's trading partners, which in turn affect UK import prices. The impact on domestic inflation need not persist, unless the change is accommodated by domestic monetary policy.

Chart 5.1
Sterling and SDR commodity prices

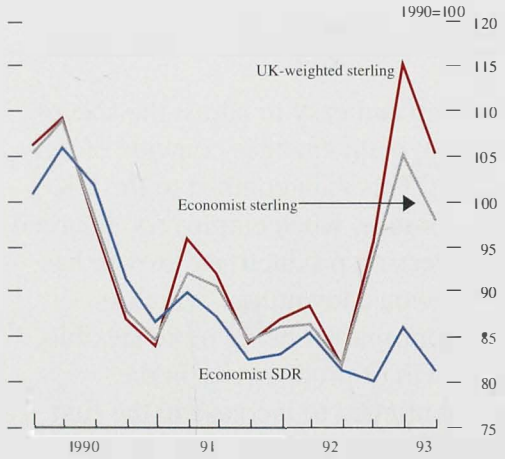
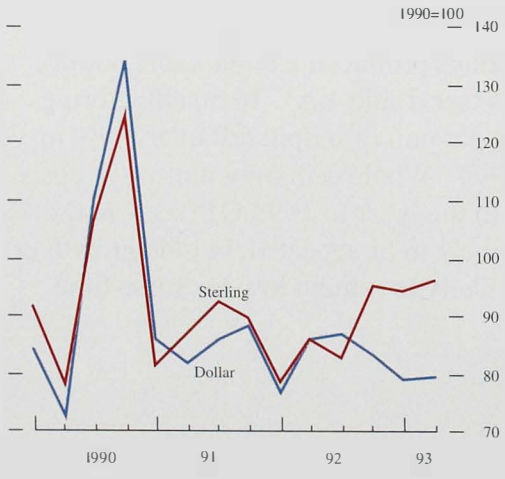


Chart 5.2
Sterling and dollar oil prices[a]



(a) Measured by close-dated Brent crude.

The UK-weighted non-oil commodities index rose by 41% between 1992 Q3 and 1993 Q1, compared with a rise of 28% in the Economist index[2] (both measured in sterling terms). In 1993 Q2, both indices fell back—the Economist index by 7%, and the UK index by 8%. The divergence in the indices partly reflects the recent sharp rise and subsequent fall of timber prices (resulting from concerns about US environmental policy affecting production), which have a higher weight in the UK index. Both indices have weakened recently, perhaps because of the growth in stockpiles of metals.

Although oil prices in 1993 Q2 were marginally above 1993 Q1 levels, they have dropped slightly since the June OPEC meeting, which agreed to roll over the second quarter production ceiling of 23.6 million barrels a day. Output in that quarter was above quota, and it is significant that both Kuwait and Iraq refused to accept their quotas at the June meeting.

With the continued recovery in the United States likely to be offset by weakness in Europe and Japan, it seems that commodity prices will not rise significantly as a result of increased demand. Supply-side considerations—for example, the recent failure of talks on price support mechanisms for coffee, rubber and cocoa and the failure of OPEC to enforce production quotas—reinforce the chances of generally stable prices.

(1) In 1990, commodities ('fuels' and the non-oil commodities included in the Economist index) represented around one sixth of UK imports.

(2) The UK-weighted non-oil commodites index contains a higher proportion of agricultural non-food products than the Economist all-items index, which uses weights based on the values of commodity imports to all OECD countries in 1984–86.

Chart 5.3
Major six producer prices

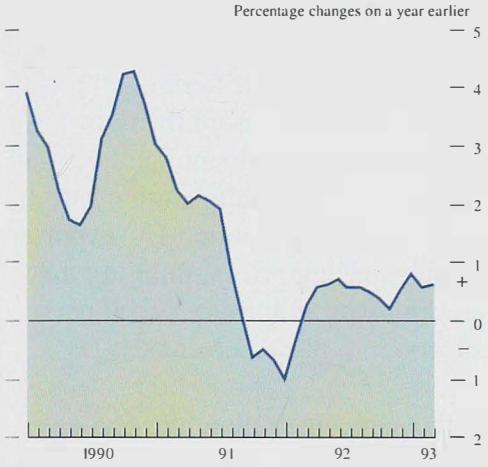


Chart 5.4
Sterling import, retail and foreign producer prices

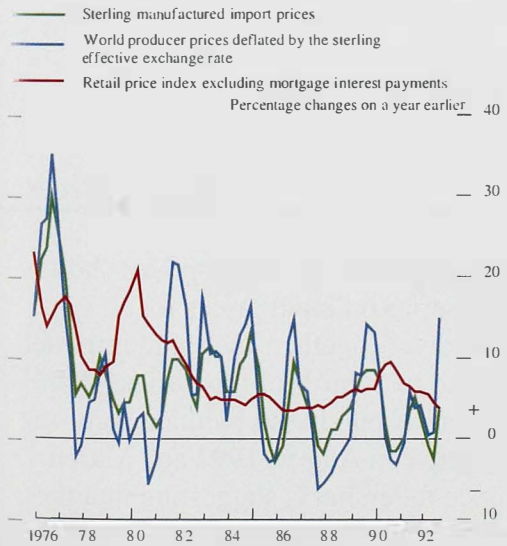
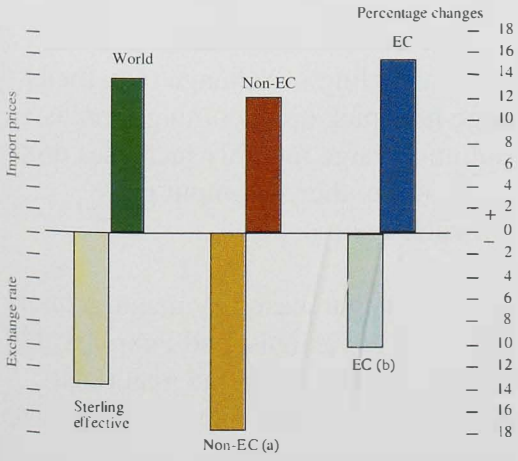


Chart 5.5
The sterling exchange rate and import prices (1992 Q3–1993 Q1)



(a) Based on the non-EC currencies in the sterling index using the following weights: United States (0.2044), Japan (0.0883), Switzerland (0.0548), Sweden (0.0379), Canada (0.019), Finland (0.0145), Norway (0.0131) and Austria (0.0124).
(b) Based on the EC currencies in the sterling index using the following weights: Germany (0.2001), France (0.1175), Italy (0.0766), Belgium (0.0525), Netherlands (0.0500), Ireland (0.0242), Spain (0.0202) and Denmark (0.0145).

Overseas inflation

The indirect impact of commodity prices on UK price levels comes via the foreign currency prices of manufactured products, which account for over 75% of UK imports of goods. Chart 5.3 shows that the annual rise in producer prices in the major six economies has averaged less than 1% since end-1991. With world activity remaining weak, future rises in producer price inflation are likely to be modest.

The extent to which foreign currency prices feed through to sterling import prices is determined by the exchange rate (and hence by monetary policy), and by the degree to which foreign producers discriminate between national markets in their pricing decisions. Chart 5.4 compares changes in the sterling prices of imported manufactures with changes in a weighted index of foreign manufacturers' output prices. The differences between the two series show that changes in foreign producer prices expressed in sterling are not always fully reflected in sterling import prices. The chart also suggests that changes in the prices of imported manufactures make only a small contribution to UK inflation.

Recent developments in import prices

Although import prices have not always moved one-for-one with changes in the exchange rate, some increase in import prices was expected after sterling's fall last September. In general, an exchange rate change is likely to pass through rapidly and fully into import prices if (a) the goods imported are homogeneous in nature and traded in more competitive markets; and (b) the exchange rate change is expected to be permanent.

Because of the change in the method of collecting statistics on intra-EC trade, figures for aggregate UK import prices are available only up to 1993 Q1 (see Table 5.A). Chart 5.5 shows the close relationship between the rise in import prices (13.7%) and the fall in sterling's effective exchange rate (13.6%) between 1992 Q3 and 1993 Q1. However, this pattern conceals a divergence in the behaviour of the prices of goods imported from outside the EC (48% of the visible total in 1992) and from the EC. Between 1992 Q3 and 1993 Q1, the prices of goods imported from non-EC countries rose by 11.9%, compared with a depreciation of sterling against non-EC currencies of 17.5%; the prices of goods imported from EC countries increased

Table 5.A
UK import prices: total

Percentage changes on the previous quarter

		Total goods	Services	Total
1990	Q1	1.0	1.0	0.7
	Q2	—	1.9	0.7
	Q3	-3.8	1.1	-2.3
	Q4	1.0	-5.6	-1.3
1991	Q1	-1.9	0.3	-1.6
	Q2	1.0	6.3	2.0
	Q3	-1.0	5.0	1.2
	Q4	—	-5.4	-1.7
1992	Q1	-1.0	0.2	-1.3
	Q2	1.0	0.8	1.2
	Q3	-3.0	8.0	0.3
	Q4	8.2	0.1	5.3
1993	Q1	5.0	4.3	4.7

Note: Average value indices, not seasonally adjusted.

Table 5.B
UK import prices (goods only)

Percentage changes on previous period

	Food, beverages and tobacco		Basic materials		Fuels		Semi-manufactured goods		Finished manufactured goods	
1991	-0.9	*-0.9*	-10.9	*-10.9*	-5.0	*-6.7*	-2.6	*-1.7*	4.3	*4.3*
1992										
Q1	—	*-2.7*	-1.1	*-2.2*	-10.5	*-12.3*	-1.8	*-2.6*	-0.8	*-1.6*
Q2	0.9	*1.8*	—	*4.6*	2.0	*4.0*	-0.9	*-0.9*	-1.6	*-0.8*
Q3	-2.7	*-5.4*	-3.4	*-6.6*	—	—	-0.9	*-0.9*	—	*-0.8*
Q4	4.5	*5.7*	4.7	*5.9*	11.5	*13.5*	4.6	*6.4*	7.4	*6.6*
Aug.–June		*10.4*		*7.1*		*7.8*		*11.1*		*11.6*

Note: Figures in italics are prices of imports from outside the EC. Series are not seasonally adjusted.

Table 5.C
Manufacturers' input price inflation[a]

Percentage changes on a year earlier

	Materials		Petroleum products and other fuels	All manufacturing	Total excluding food, drink and tobacco
	Home produced	Imported			
1991	0.1	-2.7	1.0	-1.2	-2.2
1992	2.4	-0.7	0.6	0.5	-0.7
1992 Q1	2.1	-0.4	-2.7	-0.1	-1.3
Q2	0.2	-2.6	0.4	-1.2	-2.2
Q3	3.8	-3.6	0.1	-0.8	-2.9
Q4	3.7	3.8	4.5	4.0	3.8
1993 Q1	8.3	7.0	6.9	7.3	6.3
Q2	12.9	5.3	5.2	7.4	5.1

(a) Materials and fuels purchased by manufacturers.

by 15.2%, compared with an exchange rate depreciation of 10.4%.

It is not easy to account for these different rates of pass-through. It is unlikely to be the different commodity compositions of imports from the two regions, since manufactured and non-manufactured import prices have increased at a broadly similar rate (see Table 5.B). It is also unlikely that non-EC exporters have delayed raising their sterling prices, thinking that the depreciation of sterling was temporary (sterling stands at a forward discount to these currencies).

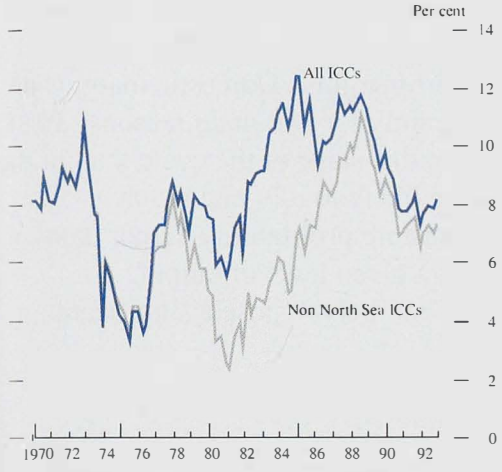
The slight firming of the exchange rate in the second quarter has rapidly fed through to non-EC import prices, which fell by 4.7% between March and June. Although data on the prices of imports from the EC are not available beyond 1993 Q1, significant rises are unlikely; indeed, the drop in import volumes from the EC since 1992 Q3 could encourage EC exporters to reduce sterling prices to regain market share.

5.2 Input prices

The impact of import prices on domestic prices shows up first in the CSO's series on input prices for manufacturing industries. Together, fuels and imported goods comprise around two thirds of this series. The cost of fuels and materials purchased by manufacturing firms rose by 8.7% between August 1992 and March 1993. But it has since fallen back, suggesting that the initial impact of higher import prices has now fed through to input prices. In the second quarter, input prices were 7.4% higher than a year ago, with a smaller increase outside the food, drink and tobacco industries (see Table 5.C). Since input prices (excluding those industries) fell by 1.4% between June and August last year, following a rise in sterling's exchange rate, their twelve-month change may pick up in coming months. However, as last autumn's large monthly increases drop out of the annual rate later in the year, input price inflation should fall back again.

The cost of domestic inputs purchased by manufacturers increased rapidly between last August and February this year, much in line with prices of imported materials. Despite firming in the exchange rate since then, and the fall in the price of imported inputs, prices of domestically produced inputs have continued to increase. To the extent that inputs are widely traded in international markets, higher world prices (denominated

Chart 5.6
Return on capital[a]



(a) Pre-tax rate of return on capital stock at replacement cost.

Chart 5.7
Manufacturers' price to cost ratios and the exchange rate

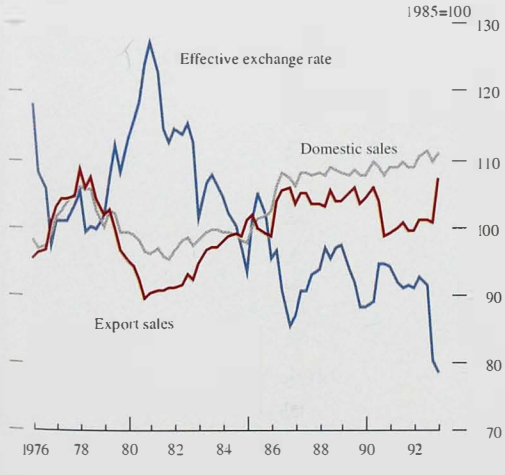


Table 5.D
Contributions[a] **to manufacturers' domestic output price inflation**[b]

Percentage points

		1991	1992			1993		
			Q2	Q3	Q4	Q1	April	May
1	Labour productivity	0.7	2.1	1.8	2.8	3.5	3.6	4.7
2	Labour costs	3.5	2.6	3.1	2.5	2.2	2.4	3.1
3	Unit labour costs (3=2-1)	2.9	0.6	1.3	-0.3	-1.4	-1.2	-1.5
4	Input prices	-0.7	-0.7	-1.9	1.2	2.1	1.5	1.7
5	Bought-in services[c]	2.5	1.6	1.1	0.9	0.5	0.2	0.2
6	Margins[d] (6=7-(3+4+5))	0.4	1.4	1.2	0.6	1.5	2.1	2.3
7	Output prices[e]	4.9	2.8	2.7	2.4	2.7	2.6	2.6

(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 changes on a year earlier.

in sterling) will be reflected in higher prices for products sourced locally. Prices of primary (rather than processed) food are particularly likely to reflect exchange rate movements, because the prices of locally produced food tend to move in line with changes in the green pound—the rate at which EC agricultural support is converted into sterling.

5.3 Business profitability

During a recession, pressure on businesses to lower margins contributes to a reduction in inflation. Provided firms cover their short-run variable costs they may continue producing even though prices are below long-run costs. As the economy recovers, firms seek to restore profits. Chart 5.6 shows estimates of the rate of return on capital in industrial and commercial companies in the United Kingdom. Although profitability fell from its cyclical peak in the late 1980s, its level is higher than in previous recessions, and has started to rise again. The ratio of non North Sea profits to costs fell by 1.2% in the first quarter of 1993, following a decline of almost 5% in the previous quarter. These declines reflect the fall in the exchange rate in September last year, which increased import costs. But a fall in the ratio of profits to costs need not imply a reduction in profits—if costs rise the ratio will fall even if the rate of return on capital is unchanged.

In contrast to the domestic picture, manufacturers' export margins were squeezed sharply in the recent recession, though not as much as in the 1980s. Between the end of 1979 and the first quarter of 1981, UK manufacturers' normalised unit labour cost competitiveness worsened by over a quarter; the deterioration between end-1989 and 1991 Q1 was only one seventh. The explanation for the tighter squeeze on export than domestic margins may be that UK exporters are price-takers in world markets to a greater extent than in domestic markets. The extent of the earlier fall in export margins may be one reason why export prices increased so sharply following sterling's fall last year: prices of exports to non-EC countries increased by 9.7% between August 1992 and March 1993.

The most recent data on profits are for manufacturing industry. Table 5.D illustrates the contribution of various factors to domestic producer output price inflation. It suggests that all but 0.3 percentage points of the 2.6% increase in manufacturers' domestic output prices in the year to May came from higher margins.

For manufacturers, faster rises in the price of materials and fuels have been virtually offset by falling unit labour costs.

The fall in sterling last September, combined with the earlier squeeze on export profitability, has prompted rapid increases in export margins. Domestic margins are unlikely to rise significantly for two main reasons. First, profitability is higher at this stage of the cycle than in the past. Second, firms are likely to rely mainly on increases in output to restore profitability, rather than on increases in margins at a given level of output. A widening of margins is unlikely to pose a significant inflationary threat.

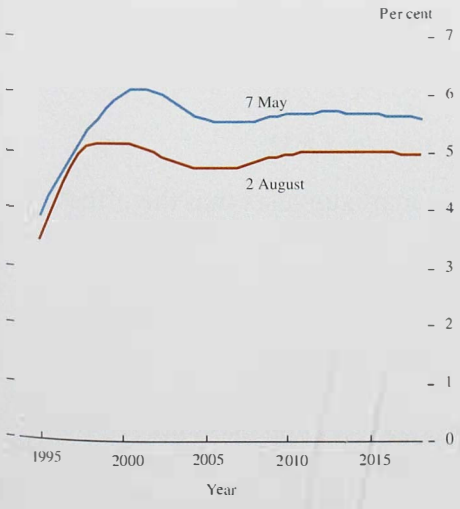
Prospects for inflation 6

The outlook for inflation depends upon current inflationary pressures, and the interaction between monetary policy and the state of the real economy. The latter determines the speed at which inflation adjusts to the rate implied by the stance of monetary policy. That adjustment process is also dependent upon expectations of inflation. Evidence on private sector expectations of inflation can be obtained by looking at market yields on financial instruments and from independent forecasts and surveys. An essential element in the presentation of Bank projections for inflation to mid-1995 is a comparison between the projections in the May *Report* and the central outturn for inflation over the past three months. Differences between the earlier and current longer-run projections reflect the 'news'—both about inflation and the underlying state of the economy—that has emerged since the May *Report*.

6.1 Evidence from financial markets

The last *Report* considered the evidence about inflationary expectations that can be derived from comparing yields on conventional and index-linked gilts. This evidence may be more reliable than that from surveys because the expectations of investors are reflected in their investment decisions, not just their statements. From the observed yield curves for nominal and index-linked gilts, it is possible to derive term structures for expected future short-term nominal and real rates of interest. The difference between these two term structures can be interpreted as the term structure of expected inflation, provided that the risk premium which is required on conventional gilts to compensate for the uncertainty about future inflation is small relative to the level of yields. (The method of construction is described in more detail in the accompanying box). Chart 6.1 shows the term structure of expected inflation calculated this way. It compares the profiles of inflation expected on 7 May, as published in the last *Inflation Report*, and 2 August. During those three months, expectations of future inflation over the long and the medium-term fell by approximately half a percentage point. However, Chart 6.1 suggests that investors in the gilts market either require a very large premium to compensate for uncertainty about future inflation or are still giving considerable weight to the possibility that future

Chart 6.1
Inflation expectations



Implied forward interest rates and future inflation rates

When sterling's membership of the ERM was suspended last September, gilt prices reacted sharply. To a large extent, this reflected changes in investors' expectations, particularly of future interest rates. These expectations are likely to have changed significantly, since UK interest rates would no longer be so closely tied to interest rates of other ERM member countries.

Differences in yields between gilts of different maturities can be used to determine implied forward short-term interest rates and so to gauge the extent of changes in expectations. Nominal implied forward rates, which can be broadly interpreted as the spot rates (ie one-period current rates) which investors expect will prevail over future years, can be derived from a par yield curve, calculated by fitting a curve through observed yields on a large number of conventional gilts.

Using the Bank's par yield curve, the chart shows the nominal implied forward rate curves before and after the suspension of sterling's ERM membership.

In practice, implied forward rates will differ from expected future spot rates because investors will generally require compensation for bearing the risk that their expectations may not be fulfilled. The implied forward rate therefore equals the expected gilts spot rate plus a risk premium. Moreover, some may be priced at a premium or discount relative to others because they are attractive or unattractive to certain investors for tax or liquidity reasons.

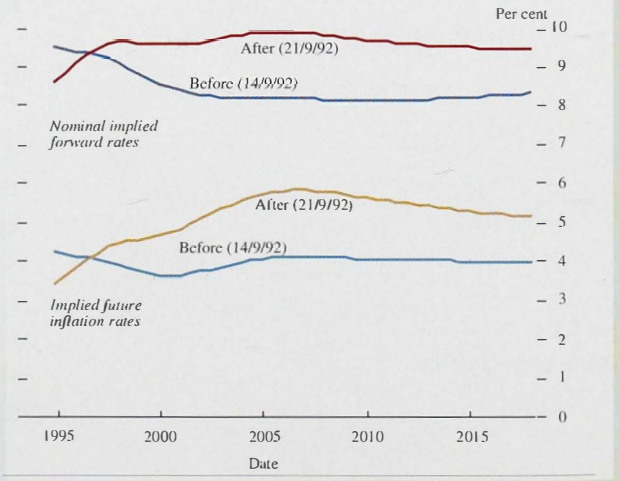
Implied future inflation rates

Gilt holders require yields which not only compensate for anticipated inflationary losses, but also give them a real return; otherwise, they will switch to competing assets.

The existence of index-linked gilts allows us to separate these two components because coupon and redemption payments on index-linked gilts are linked to the RPI and are therefore to a large extent protected from inflationary losses. So the prices of index-linked gilts should reflect only expectations of real interest rates, and not expected inflation or the inflation risk premium, and real implied forward rates can therefore be derived from a real yield curve fitted to real yields on indexed gilts.

If it is assumed that the inflation risk premium is small relative to expected inflation, the forward nominal rate will be the sum of the expected inflation rate and the real interest rate on index-linked gilts. The implied inflation term structure is then constructed by subtracting the real implied forward rate curve from the nominal implied forward rate curve.

Implied future inflation rates before and after the suspension of sterling's ERM membership (16/9/92)



The effect of leaving the ERM

On this basis, the chart suggests that the effect of sterling's suspension from the ERM on expected nominal interest rates was largely because of a change in inflation expectations. Investors expected lower interest rates in the short term but over the longer term they expected rates to be about one percentage point higher. With real yields on index-linked gilts remaining broadly unchanged, the implied future inflation rates shown in the chart indicated a significant rise in expected inflation, especially over the medium term.

governments will not adhere to the present inflation target. Long-term credibility in the inflation target has not yet been fully established.

6.2 Outside forecasts

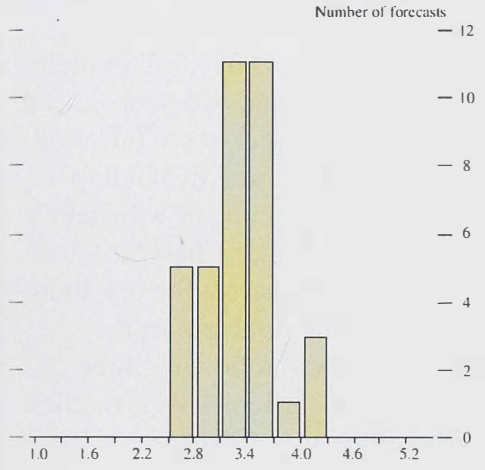
Many institutions and companies publish forecasts of inflation. Chart 6.2 shows 36 private sector forecasts for underlying inflation. The mean of these forecasts for underlying inflation in the year to the fourth quarter of 1993 is 3.3%. At the time of the last *Inflation Report*, it was 3.8%, and, in February, 4.1%.

The outside forecasts embody a range of different assumptions about the future course of policy variables, such as interest rates, and about changes in the exchange rate. Although the effect of such assumptions will be limited as far as projections to the end of 1993 are concerned (there are lags between changes in these variables and inflation) their effect on projections to the end of 1994 will be substantial. The mean private sector forecast for underlying inflation in the year to the fourth quarter of 1994 is now 3.7%, which suggests that forecasters generally do not expect underlying inflation to pick up significantly in 1994 (see Chart 6.3). These forecasts have fallen since the last *Report* in May, when the mean was 3.9%, and February, when it was 4.3%. Of the 36 forecasters, 25 now expect inflation to be at or below 4% by the end of next year, compared with 18 out of 36 three months ago.

6.3 Surveys of inflation expectations

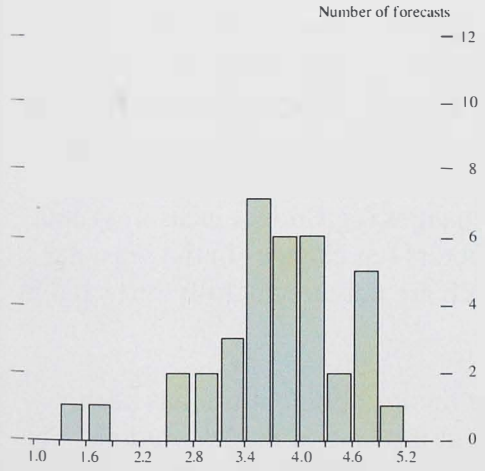
Recent surveys suggest, on balance, that inflation expectations have moderated since the last *Report*. The balance of respondents expecting to see a rise in their domestic output prices has shown a marked fall, from 10% in April to only 1% in July, according to the Quarterly CBI Industrial Trends Survey. Within the total, three quarters of respondents were not expecting to change their prices over the next four months, the highest figure since the survey began in January 1972. Fund managers' expectations of RPI inflation, for both end-1993 and end-1994, have not changed significantly since the last *Report*, according to the Smith New Court/Gallup Survey. As Chart 6.4 shows, for the past six months, fund managers have expected inflation to rise. In July they were forecasting a rate of 3.8% by the end of 1994. Using results from the Gallup Survey of employees' price expectations, it is possible to derive the balance of respondents who expect inflation to

Chart 6.2
Distribution of private sector forecasts for inflation in 1993 Q4



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

Chart 6.3
Distribution of private sector forecasts for inflation in 1994 Q4



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

Chart 6.4
Smith New Court/Gallup Survey of fund managers

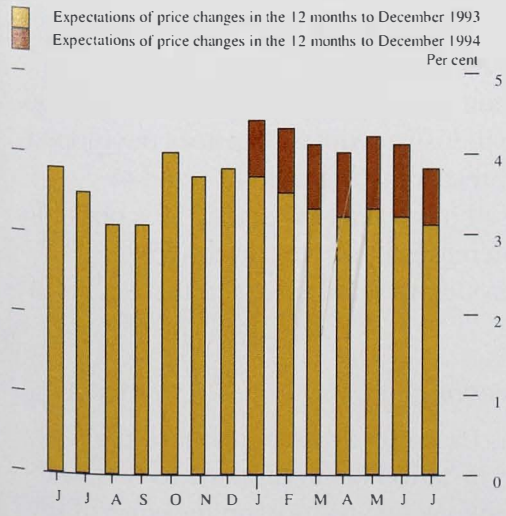
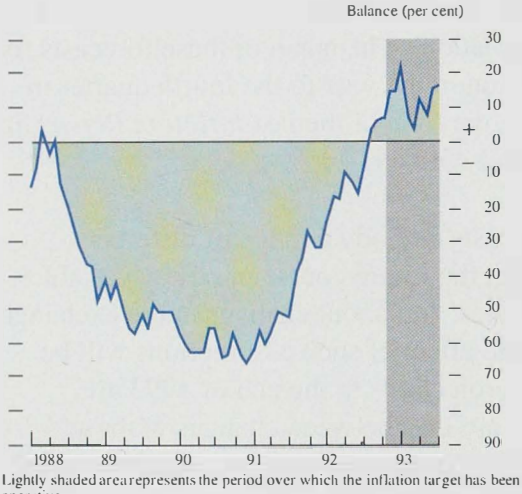


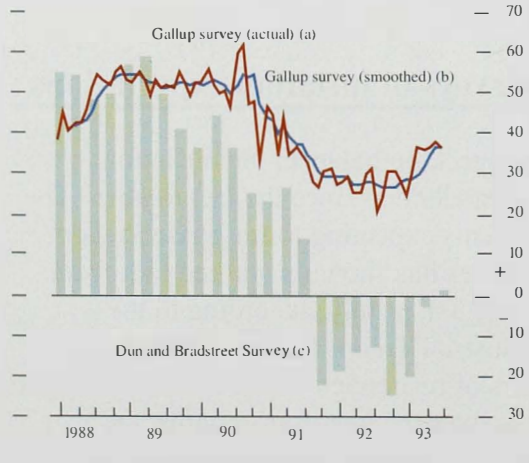
Chart 6.5
Balance of employees expecting annual price inflation to be less than 4%



Lightly shaded area represents the period over which the inflation target has been operative.

(a) Based on Gallup Survey of employees' price expectations.

Chart 6.6
Dun and Bradstreet Survey on expectations of selling prices and EC/Gallup consumer inflation expectations



(a) Weighted average of responses to Gallup question.
(b) Four-month moving average of the 'actual' response.
(c) Percentage point balance of those expecting an increase (+) or a decrease (-) in their selling prices.

remain below 4% over the coming year (see Chart 6.5). By this measure, expectations of inflation are still low compared with those in recent years, and employees still expect, on balance, that annual inflation will remain below 4%. The June Barclays BASIX Survey shows most categories of respondents reporting a fall in their expectations of inflation, both one and two years ahead, although the general public still expect to see inflation in excess of 4% by mid-1994. The June EC/Gallup Survey of consumers suggests the public now believe that inflation has passed its trough (see Chart 6.6). Results from the July Dun and Bradstreet Survey show that a small majority of managing directors were expecting their selling prices in the following three months to be higher than a year earlier. This is the first positive balance recorded since July 1991 (see Chart 6.6).

6.4 Bank projections

The short-run outlook

Chart 6.7 shows the latest projections for RPIX inflation over the next three months, together with the projections contained in the last *Report*. These are based on purely statistical extrapolations of recent trends in a number of RPI components, amended to take into account known administered price changes (eg Budget measures) and known exogenous factors (eg changes in the seasonal pattern of sales) which are not already fully reflected in the inflation rate.

The chart shows that the inflation outturn has been lower than projected at the time of the last *Report*. This is partly because the retail prices of food, drink and tobacco did not increase as rapidly as expected, taking into account the usual seasonal pattern, and partly because price increases across the board were lower than implied by their recent behaviour. Inflationary pressures have continued to weaken. Such large divergences between the outturn and the previous projection constitute news about underlying inflation. In the food, drink and tobacco industry wholesale prices developed at much the rate forecast but the ratio of retail to wholesale prices fell more than expected. It is possible that more of the increases in import prices will eventually feed through to retail prices in that sector in particular.

Longer-term projections

Monetary policy is based on an assessment of the direction in which inflation is moving one to two years ahead and not on the backward-looking measure of the

increase in prices over the past twelve months. Chart 6.8 shows the Bank projections for RPIX inflation between now and the middle of 1995, together with the outturn to date and the projection published in the May *Report* (to December 1994). The projection is based on the assumption of unchanged interest rates. Given that the trade-weighted interest rate differential between the United Kingdom and the rest of the world is close to zero, a broadly unchanged exchange rate, corresponding to ERI of 81, has been assumed.

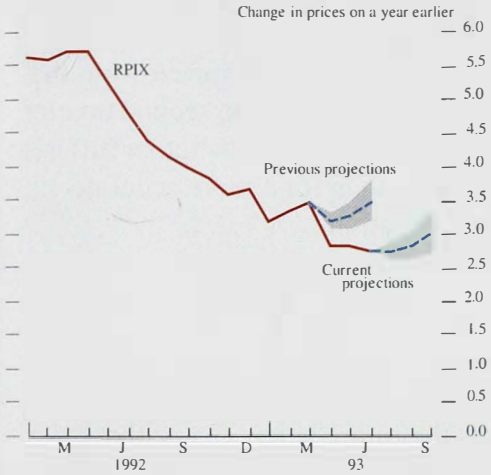
The most likely outturn is that RPIX inflation will remain low for much of 1993 but will pick up in the first half of 1994, moving towards, although remaining below, the top of the target range. The main reason for the rise in RPIX inflation is the response of the index to changes in indirect taxes and in local authority taxes. Excluding such effects, underlying inflation is expected to decline until the middle of 1994 and then remain roughly constant.

The current projections take account of the news since the last *Report*. The most important pieces of news have included:

- falls in unemployment: it is not yet clear what is happening to total employment, but it has reacted to output changes more rapidly in the 1990s than in the past. The demand for labour appears to be increasing;
- rises in output and industrial production: the evidence is consistent with a slightly faster recovery than expected; and
- lower retail price levels: the depreciation since last autumn has had much the effect expected on import and input prices, but retail prices have been lower than forecast.

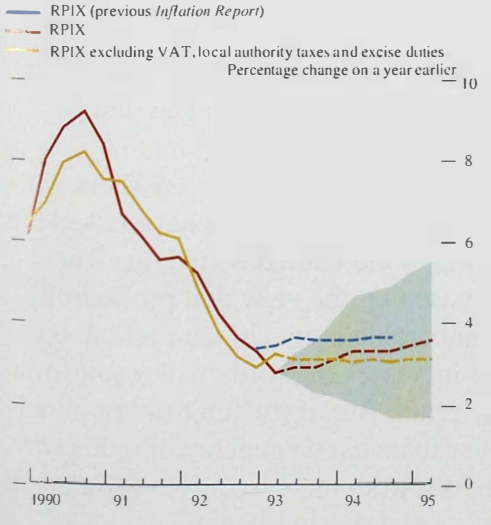
The impact of this news has led to a downward revision in the central projection for inflation (see Chart 6.8). The best indicator of underlying inflation at present—the increases in RPIX excluding local authority and indirect taxes—increased somewhat at the end of last year reflecting the rise in import prices. But it has started falling again and is likely to remain low for some time. The evolution of the monetary aggregates, discussed in Section 2, is consistent with this outlook for inflation. There is still a substantial output gap and high short-term unemployment, both of which should continue to exert downwards pressure on inflation.

Chart 6.7
RPIX inflation projections and outturns



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

Chart 6.8
RPIX inflation projections and outturns



The range is defined as the central projections plus or minus the absolute average error on consumer price inflation projections since 1985. The projection is based on broadly unchanged policy, with the exchange rate in the third quarter of 1993 set at 81.0 (£ ERI).

The measures announced in the last Budget (together with the change of local tax regime) are expected to raise RPIX inflation by 0.2 percentage points in the first quarter of 1994 (the effect of the two rounds of excise duty indexation likely within the year) and by 0.4 percentage points in the second quarter of 1994 and by 0.5 percentage points in 1995 (extension of the VAT base). The effects of the switch from the Community Charge to the Council Tax will also disappear from the twelve-month change in the index in the second quarter of 1994. These measures account for the rather different outlook for RPIX inflation than for a more accurate measure of underlying inflation.

Uncertainties

There are three main sources of uncertainty surrounding the central projection. The first, and ever present, uncertainty surrounds the future behaviour of the exchange rate. The recent turmoil in the ERM has created greater uncertainty about interest rates on the Continent, and hence about the exchange rate between sterling and the ERM currencies. An earlier than expected reduction in interest rates in those countries would, in part, lead to faster recovery there and hence better prospects for UK exports, and, in part, a higher sterling exchange rate. On balance, the outcome would be a slightly lower inflation rate than implied by the central projection.

The other two sources of uncertainty represent risks that inflation might be higher than expected. The first surrounds the real rate of return on capital that is required to generate levels of investment consistent with economic recovery. Supply-side reforms have raised the rate of return on capital in the United Kingdom. The central projection is based on the view that profitability is high relative to comparable points in the cycle in the past, and that further increases in profits will result from a return of output to trend. But, if the long-run required rate of return is higher than can be generated in this way, successful firms might start to increase prices for a given level of costs, resulting in a rise in margins.

In addition the compression of retail margins following the rise in import prices itself admits of two explanations. The first is that because of the current state of demand in the domestic market, the timing of the pass-through of depreciation to domestic prices has changed. This would mean that an unexpected fall in inflation this year might be offset by a correspondingly higher rate of inflation next year as import prices finally

pass through to higher prices in the shops. The second explanation is that competition in the retail sector has lowered the long-run level of profit margins and that the increase in import prices will be absorbed in margins not only in the short run but also in the long run. It is simply too early to tell which effect is the more important.

The other uncertainty is about earnings. Nominal earnings depend on the real level of earnings expected by wage bargainers and consequently on their price expectations. There is a risk that a slower growth in real wages may lead bargainers to aim for higher pre-tax earnings. More important, their price expectations will determine which will prevail, low rates of increase in money earnings and low inflation or higher rates of increase offset by more rapid increases in prices. A belief that the inflation target will be met will help make the former more likely.

7 Conclusions

Inflation has continued to fall throughout the period since the May *Report*. The headline inflation rate has fallen to 1.2% a year, the lowest for nearly thirty years. Underlying inflation, defined in terms of RPIX, has fallen from a rate of 3.5% in March to 2.8% in June, the lowest figure since the index first became available. In terms of arithmetic, the fall in inflation is accounted for by the switch from the Community Charge to the Council Tax which reduced average household payments. This one-off change will affect the twelve-month rate of inflation until next spring when the effect drops out of the index. But the reduction in inflation over the past three months was more rapid than anticipated, and its explanation is not to be found in the change in local authority taxes. One of the reasons for such a marked slowdown was that the impact of sterling depreciation on import prices has been offset by a reduction in unit labour costs, leaving total costs broadly unchanged. Profits in manufacturing rose slightly and inflation fell. In addition, retail margins in sectors such as food, drink and tobacco may have been reduced.

The Bank's central projection is that inflation will remain within the target range over the next two years. It is important to distinguish between RPIX inflation, used in the definition of the target range, and a measure of underlying inflation which excludes changes in both indirect and local authority taxes. Excluding the effects of taxes, the underlying rate of inflation is expected to decline further over the next year and then to remain broadly constant into 1995. In contrast, RPIX inflation will increase in the first half of 1994 as a result of the extension of VAT to domestic fuel and power (and any indexation of excise duties to be announced in the November Budget) and the change from the Community Charge to the Council Tax dropping out of the twelve-month rate. The official measure of underlying inflation may, therefore, be close to the top of the target range in the first half of 1994.

As far as underlying inflation is concerned, there are three main uncertainties. The first surrounds the exchange rate, the second concerns the behaviour of profitability and the third the behaviour of earnings.

A higher than expected sterling ERI would, other things being equal, put further downward pressure on inflation in the short run. But the impact of any changes in the exchange rate would depend on the reason for that change. A rise in sterling which resulted from news that recovery was more rapid than anticipated would have a smaller effect on inflation than a rise which resulted from lower interest rates abroad.

Although business profitability is much higher than at comparable stages of the cycle in the past, those levels of profits were unsustainably low. Profits will rise further as output returns to trend. But, if this fails to produce an adequate real rate of return on capital, there may be upward pressure on prices as well as downward pressure on costs.

The third source of uncertainty concerns the rate of increase of nominal earnings. The high level of short-term unemployment and the rapid growth of real wages relative to productivity in recent years should lead to a marked slowing down in the growth of real wages over the next two years. Provided that firms and employees are confident that inflation will remain well within the target range, this adjustment in the growth of real wages will occur at lower rather than higher rates of inflation.

The evidence on expectations of inflation suggests that it is expected to remain within the target range over the next two years or so. But market expectations derived from the yield curve do not yet appear to be consistent with the achievement of the inflation target over the next decade. Credibility of the target over this horizon matters because it affects the level of long-term interest rates. Such rates are also influenced by the level of the budget deficit. The prospective rise in the ratio of government debt to GDP is of concern because it may lead to fears that the real burden of this debt will eventually be monetised.

The growth of the monetary aggregates, and monetary policy more generally, are consistent with inflation remaining within the target range over the next two years. Expectations of inflation on the part of firms and employees are important because they determine whether, given the monetary stance, the level of nominal wages which results from bargaining generates the expected level of real wages and employment. The recent reductions in inflation improve the prospect that inflation will remain within the target range, which will enhance the credibility of the target range itself. But it is important that adherence to the target range is not

interpreted simply as holding inflation below 4% a year. Part of the original statement of the target was that inflation should be in the lower half of the range by the end of this Parliament. That outcome is within reach provided that monetary policy does not accommodate increases in nominal costs, and that fiscal policy does not threaten the inflation target in the longer run.