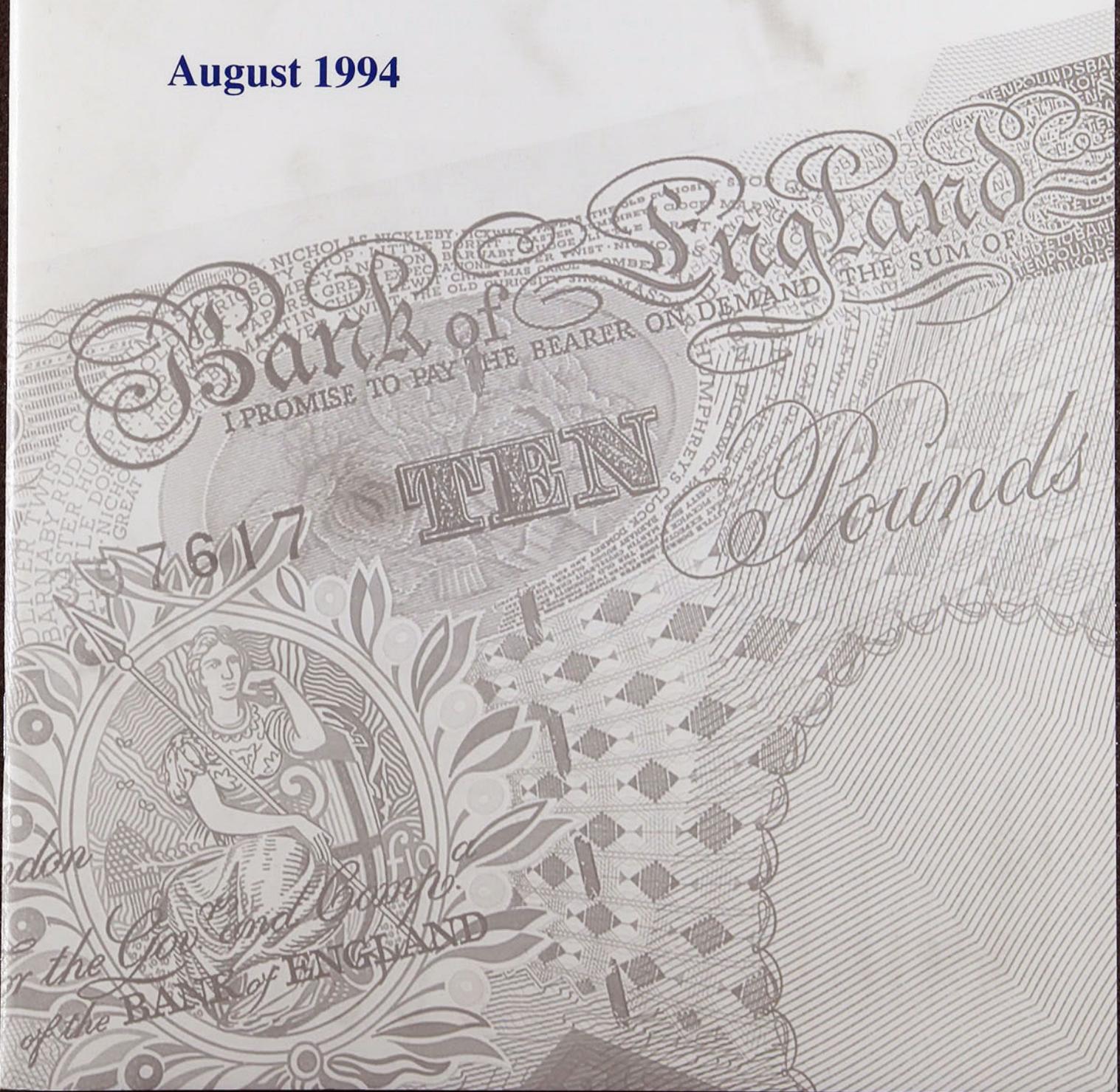


Bank of England

Inflation Report

August 1994



Inflation Report

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Summary

RPIX inflation—the Government's target measure, based on the retail price index excluding mortgage interest payments—was 2.4% in June. The Bank's RPIY measure of underlying inflation, which excludes the VAT, local authority taxes and excise duties in RPIX, was 1.7%, close to its lowest ever. Most measures of inflation confirm that retail and output prices are not accelerating.

The signals from the monetary aggregates diverged slightly for most of the second quarter, with narrow money continuing to accelerate and broad money growing more slowly. But narrow money began to slow down in June and July. The financial markets have remained turbulent with concerns about the world recovery and the weakening dollar.

Output continues to grow above its long-run potential growth rate. Consumption appears to be holding up, in spite of negative wealth effects and the impact of tax rises on personal disposable income. Unemployment continues to fall. The slight tightening of the labour market is unlikely to have a substantial effect on the growth of earnings in the short term. Commodity prices and firms' price expectations both give rise to risks to the inflation outlook.

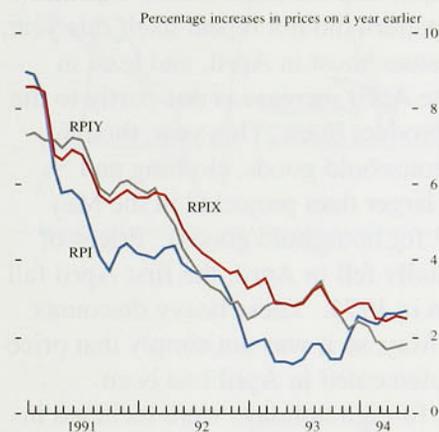
The stance of monetary policy must be set on the basis of a judgment of where inflation will be in some two years or so. This is especially important at turning-points in official interest rates. The pressures for higher inflation in the future may be building up even as the published inflation rate for the past continues to fall. It is possible, though not yet certain, that the United Kingdom is entering this phase.

Underlying inflation may well fall a little further over the next quarter. The current picture of output growing above trend and inflation continuing to fall remains favourable. But if official interest rates were to remain unchanged over the next two years, then it is probable that inflation would gradually rise to a level above the mid-point of the target range.

Recent developments in inflation

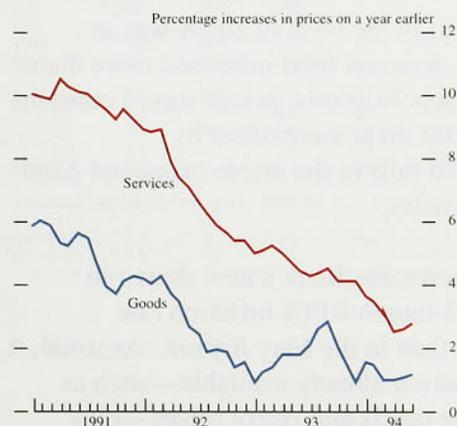
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Chart 1.1
Inflation



RPIX=Retail price index excluding mortgage interest payments.
RPIY=RPIX excluding VAT, local authority taxes and excise duties
(Bank calculations).

Chart 1.2
Goods and services inflation



Based on components of RPIY.

Table 1.A
Short-run measures of inflation

	Percentage changes (a)				
	RPI	RPIX	RPIY	Goods (b)	Services (b)
1993					
Jan.	-2.1	2.4	2.7	1.4	4.8
June	1.1	1.1	2.1	1.8	2.9
Dec.	1.5	1.7	-0.4	-3.1	3.5
1994					
Jan.	2.3	2.5	0.7	-0.8	2.9
Feb.	3.1	3.7	1.8	1.4	2.4
Mar.	2.3	2.7	2.1	2.6	1.7
Apr.	2.4	1.6	1.9	2.2	1.2
May	2.4	1.1	1.7	2.0	1.2
June	2.4	1.1	2.0	2.3	1.6

(a) Three-month change annualised (seasonally adjusted).
(b) Sub-categories of RPIY.

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.

1.1

Retail prices

The Government's target inflation measure—the 12-month rise in the retail price index excluding mortgage interest payments (RPIX)—changed little over the three months to June. It fell from 2.4% in March to 2.3% in April, a new low since the index began in 1975. It then rose to 2.5%, before falling back to 2.4% in June (see Chart 1.1).

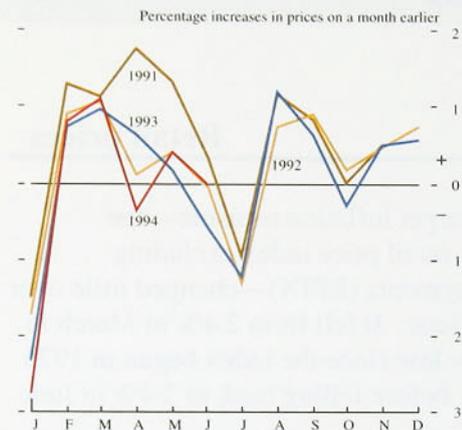
One-off increases in indirect taxes like VAT boost RPIX and headline RPI inflation. To assess underlying inflation, the Bank calculates an index, RPIY, which excludes those taxes. The annual rate of RPIY inflation has fallen since the last *Report*, from 1.9% in March to 1.6% in April (another record low), and to 1.7% in May and June.

Headline RPI inflation rose from 2.3% in March to 2.6% in April, where it has remained. RPI, unlike RPIX, includes mortgage interest payments; the reduction in the rate for mortgage interest tax relief from 25% to 20% in April was mainly responsible for the increase relative to RPIX inflation. Chart 1.1 shows how the headline rate, which reached its trough in June 1993, can give a misleading impression of what is happening to underlying inflation: the Bank's RPIY rate has fallen fairly steadily since September 1993.

Inflation, measured over the last year, continues to be lower for goods than for services (Chart 1.2). This is the normal pattern, partly because productivity usually increases more rapidly in goods production.⁽¹⁾ But recently, services price inflation—measured over three months instead of a year—has fallen below goods price inflation, similarly measured. Although there has been a tendency for the decline in the inflation of prices of items which are not internationally tradable to lag behind that of headline inflation, this demonstrates that it does come down eventually. Short-run measures of inflation are shown in Table 1.A. The fall in the annualised three-month rate of increase of RPIX

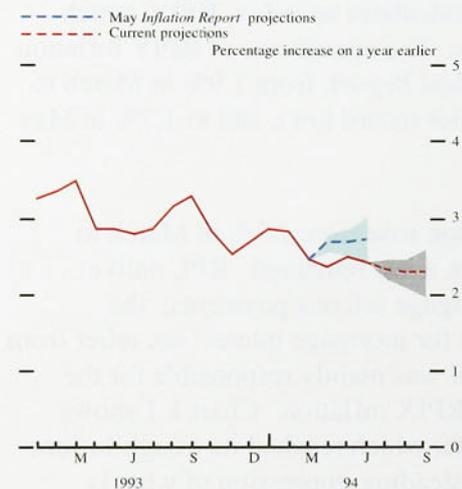
(1) See Melliss, C L (1993) 'Tradable and non-tradable prices in the UK and EC: measurement and explanation', *Bank of England Working Paper No 15*, June.

Chart 1.3
Seasonal movements in prices of household goods



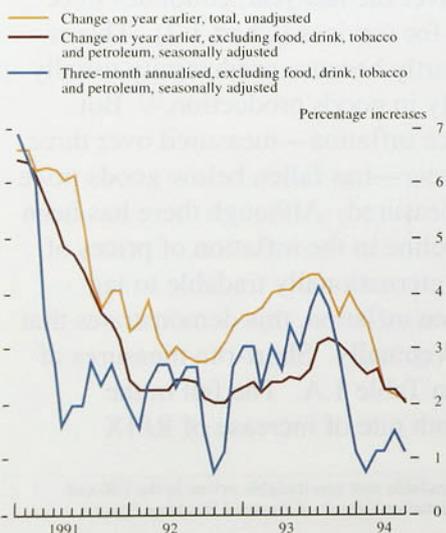
Source: Retail price index.

Chart 1.4
RPIX inflation projections and outturns



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

Chart 1.5
Producer output price inflation



(seasonally adjusted) was 1.6 percentage points between March and June—despite the April tax increases, which would normally have caused it to rise.

In the latest three months, inflation has been lower than projected in the *May Report*, which was published before the April RPI was released. The main discrepancy was in April and the main reason was that the normal seasonal pattern did not repeat itself this year. Typically, RPIX increases most in April, and least in July and January. The April increase is due partly to the introduction of new product lines. This year, though, spring discounts on household goods, clothing and footwear were much larger than projected in the *May Report* (see Chart 1.3 for household goods). Prices of household goods actually fell in April, the first April fall since the series began in 1974. These heavy discounts were not reversed in May, so it was not simply that price increases usually implemented in April had been delayed. In addition, foreign holidays were included in the RPI from last year and holidays in the United Kingdom from this year—changes which have reduced the usual April spike in prices for leisure services.

In June, the slight fall in the level of RPIX was as expected. Prices of seasonal food increased more than anticipated and household goods' prices stayed constant instead of falling. But these were offset by greater-than-expected falls in the prices of second-hand cars and personal articles.

In the light of this news, the Bank's new short-run projection for the 12-month RPIX inflation rate (Chart 1.4) is lower than in the *May Report*. As usual, it incorporates information already available—such as changes in telephone tariffs and petrol prices—plus statistical extrapolations of past price increases. It is the benchmark against which to judge the 'news content' of RPIX over the next three months. Unlike the medium-term projection discussed in Section 6, the short-run projection does not embody the Bank's analysis of inflation prospects.

1.2 Output prices

Annual producer output price inflation has fallen since the *May Report*. This is true both for the series overall and also excluding food, drink, tobacco and petroleum, all of which are particularly affected by sharp changes in tax and commodity prices (Chart 1.5). The three-month measure excluding food, drink, tobacco and petroleum turned down in June, having risen since February.

Chart 1.6
Producer output prices and the price of manufactured imports

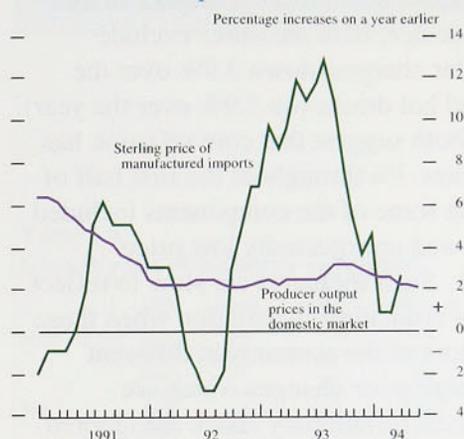


Table 1.B
Domestic deflators—expenditure components

	Consumption	Investment	Government	Exports	Imports	GDP
1991	6.8	-0.6	7.0	1.1	0.4	5.8
1992	4.9	-3.1	6.3	1.4	-0.1	4.5
1993 Q1	4.4	-0.8	6.4	10.3	8.9	4.0
Q2	4.0	—	4.6	9.4	10.6	3.2
Q3	3.8	0.6	3.4	11.6	11.0	3.3
Q4	3.8	0.1	3.6	7.7	3.2	4.1
1994 Q1	2.8	—	2.8	0.6	-0.9	3.3
Seasonally adjusted growth rates—1993-94						
Q4 on Q3	1.5	-0.2	2.0	—	-1.2	0.9
Q1 on Q4	0.9	-0.1	1.0	-0.1	-0.3	0.7

Chart 1.7
Alternative measures of 'core' inflation

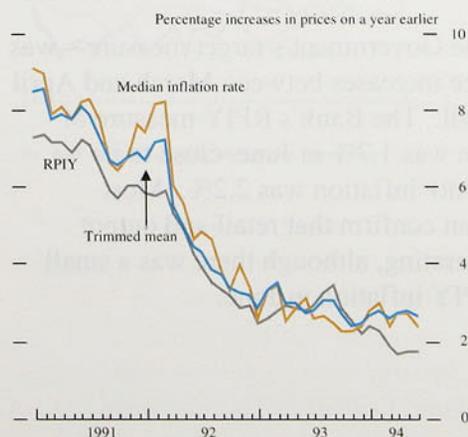


Chart 1.6 shows that the sterling prices of imported manufactures decelerated from September 1993. Like domestic output, these goods are used both as intermediate inputs and to satisfy final demand. The prices of manufactured goods bought by distributors and retailers are an important influence on prices to the final consumer.

1.3 Domestic deflators

Table 1.B reports the annual inflation rates of the price deflators for the major categories of expenditure used in the National Accounts. Since the *May Report*, these have been revised back to the beginning of 1992. In particular, estimated annual import price inflation has been revised upwards for 1993, by as much as 1.4 percentage points in Q4. More of the price increases reflected in these deflators resulted from imports than previously thought, and less from domestic value added. The effect has been to reduce the estimated increase in the GDP deflator over the year to 1993 Q4—a measure of domestically generated inflation—to 4.1% from 4.8%.

The new data for 1994 Q1 show a drop in the annual inflation rates for all expenditure categories and in the quarterly rates for most of them. There was a particularly sharp fall in the annual rate for export prices, which suggests that the effect of sterling's depreciation towards the end of 1992 has worked itself out. Annual GDP deflator inflation fell to 3.3%, consistent with the fall in domestic producer price inflation in the first quarter. The fall in inflation measured by the consumption deflator from 1993 Q4 to 1994 Q1 is somewhat larger than the fall in RPIX inflation.

1.4 Core inflation

Price changes caused directly by policy can obscure the underlying or 'core' inflation that reflects wage and price-setting behaviour. This is why RPIY excludes the Council Tax, indirect taxes and mortgage interest payments.

But RPIY is not the only measure of core inflation; two others are shown in Chart 1.7. The median inflation rate is the weighted median of all the 12-month increases of the components of the RPI, and the trimmed-mean inflation rate excludes the largest and smallest 15% of 12-month price increases. The proportion of price

changes left out is an arbitrary figure, but is intended to exclude the larger price movements, as these are likely to reflect one-off factors such as tax changes. In the latest month, for instance, both measures exclude telephone and similar charges (down 3.9% over the year) and coffee and hot drinks (up 9.9% over the year). The two measures both suggest that core inflation has remained at just below 3% throughout the first half of 1994. They exclude some of the components included in RPIY which showed unexpectedly low price increases this April. Such measures are slow to reflect general increases or reductions in inflation when these affect different sectors of the economy at different times; unusually large price changes which are precursors of a general inflationary shock are ignored.

Chart 1.8
RPI, TPI and HARP inflation rates

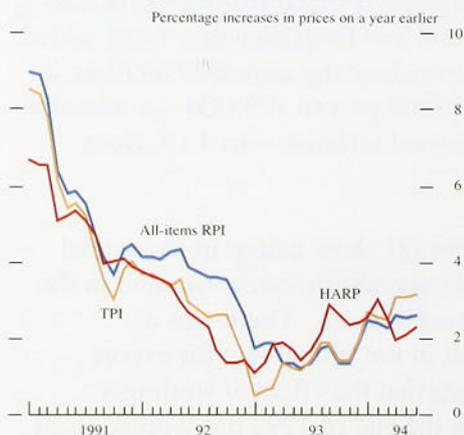


Chart 1.8 shows two more inflation measures, the housing-adjusted RPI (HARP index) and the Tax and Price Index (TPI). The exclusion of mortgage interest payments from RPIY and RPIX avoids distortions caused by changes in interest rates, but at the cost of ignoring the price of housing completely. The HARP index rectifies this by replacing the mortgage interest component of the RPI with a Bank estimate of the user-cost of housing. This means that house prices affect the index, and their recent weakness caused HARP inflation to fall in the second quarter.

The TPI adjusts the RPI for changes in direct taxation so as to obtain an index of consumers' purchasing power. If direct taxes go up, purchasing power falls and the TPI rises, even when headline RPI does not change. Hence the TPI is a useful indicator of one major factor determining employees' wage claims. From April, increases in income tax and national insurance contributions pushed TPI inflation further above RPIX inflation.

1.5

Summary

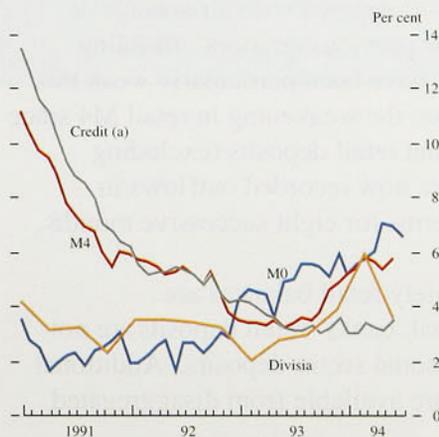
RPIX inflation—the Government's target measure—was 2.4% in June. Price increases between March and April were unusually small. The Bank's RPIY measure of underlying inflation was 1.7% in June, close to its lowest ever, and HARP inflation was 2.2%. Most measures of inflation confirm that retail and output prices are not accelerating, although there was a small rise in short-run RPIY inflation in June.

Table 2.A
Growth rates of monetary aggregates

	1994	1 month	3 months (a)	6 months (a)	12 months	
Notes and coin	April	0.6	7.2	7.5	6.4	
	May	0.7	8.1	7.8	6.8	
	June	0.6	7.7	7.5	6.7	
M0	July (b)	0.4	6.8	7.0	6.5	
	April	1.1	9.7	7.8	6.0	
	May	0.5	7.7	8.2	7.0	
M4	June	0.5	8.3	6.9	6.9	
	July (b)	0.7	6.5	8.1	6.5	
	March	0.6	6.8	6.9	5.7	
M4 lending	April	0.2	5.9	5.9	5.5	
	May	0.3	4.5	5.3	5.3	
	June	0.4	3.6	5.2	5.6	
	March	0.4	2.8	3.2	3.4	
Divisia	April	0.1	3.1	3.0	3.1	
	May	0.3	3.4	3.2	3.1	
	June	0.5	3.5	3.1	3.5	
	1993 Q3		0.7	1.3	2.0	-0.6
	1993 Q4		2.8	3.8	5.9	3.5
	1994 Q1					
	1994 Q2					

(a) Annualised.
(b) Provisional outturn.

Chart 2.1
12-month growth rates of M0, M4, Divisia and credit



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

2.1 Money and credit aggregates⁽¹⁾

The May *Inflation Report* identified the pace of monetary growth, in particular that of narrow money, as a threat to the inflation outlook. The signals from the monetary aggregates diverged slightly in the second quarter, with narrow money continuing to accelerate over the period as a whole, but decelerating in June and July, and broad money growing more slowly (see Table 2.A). Annual M0 growth remained well above its 0%–4% monitoring range, at 6.5% in July compared with 6.0% in April. M4's annual growth rate declined to 5.6% in June, below the middle of its 3%–9% monitoring range. Credit growth is still modest, with companies repaying bank debt (see Chart 2.1).

Because narrow money is demand-determined, M0 (and particularly its notes and coin component) tends to move roughly in line with measures of cash-financed spending. In the first six months of 1994, the monthly growth of notes and coin averaged 0.6%, continuing the strong run since last November. Notes and coin rose by 0.4% in July, and were up 6.5% on a year earlier.

Although growth in narrow money in the first seven months of 1994 has been faster than would have been forecast, recent Bank research (see the box on page 13) suggests narrow money will decelerate. But it is not easy to explain changes in currency holdings. There has long been speculation about the impact of the 'black market' economy on narrow money growth. Changes in currency may, therefore, proxy unrecorded expenditures which affect activity and inflation with a lag.

As for broader measures of money, they correspond most closely to the monetary variables in the transmission mechanism between monetary policy and aggregate demand. The UK measure of broad money, M4, is used both to finance transactions and for savings and portfolio purposes. This means that broad money is related to both nominal income and wealth, and can provide additional information about spending, activity

(1) The monetary data have been constructed using current updating of the seasonal adjustments and a new computer database which incorporates a number of data revisions. The box on page 11 provides further details of these adjustments.

and future inflation. The links between broad money and inflation are not straightforward, however, and it is helpful to disaggregate the total into sectoral components.

After reaching a recent peak of 5.7% in March (the highest rate for two years), M4 growth weakened during the second quarter. Its 12-month growth rate fell in April and then again in May to 5.3%, but increased to 5.6% in June, partly because a low monthly growth rate of 0.1% in June 1993 fell out of the calculation. In the second quarter of 1994, the monthly growth rate for M4 averaged 0.3%, compared with 0.5% in the previous three months. As a result, its shorter-term growth rates declined sharply—the three and six-month annualised rates stood at 3.6% and 5.2% respectively, compared with 6.8% and 6.9% in March.

During the period of sustained acceleration in 1993 and the first three months of 1994, around three quarters of the increase in M4 was accounted for by retail M4. In the second quarter, however, the retail component was particularly weak—increasing by 0.5% over the quarter (compared with 1.6% in the previous quarter)—and explained only 43% of the growth in M4. Within the components of retail M4, banks' retail deposits increased by only £0.8 billion (0.4%)—the smallest quarterly increase for nearly two years. Indeed, bank non-interest-bearing deposits fell by £0.3 billion. But bank interest-bearing deposits were also subdued—they grew by £1.1 billion—compared with an average of £2.0 billion in the four previous quarters. Building society retail deposits have been particularly weak this year, but do not explain the weakening in retail M4 since March. Indeed their net retail deposits (excluding interest crediting) have now recorded outflows in seasonally adjusted terms for eight successive months.

Whereas building society retail balances are predominantly personal, banks' retail deposits are not synonymous with personal sector deposits. Additional information is therefore available from disaggregated sectoral holdings.

Individuals' holdings of bank and building society deposits increased by only £1.3 billion in the three months to June—the smallest rise since the first quarter of 1977. One explanation is that individuals, in choosing to maintain the volume of their retail sales rather than the value of their savings in the second quarter, drew down their deposits to finance their expenditure in the face of reduced post-tax spending

Monetary statistics: current updating of seasonal adjustments and new database

The monetary data published on 20 June incorporated current updating of the seasonal adjustments for the first time. Previously the seasonals were updated half yearly.

Current updating re-estimates the seasonal adjustments each month using the latest observations. The main advantage of using this method is that it should reduce the average size of revisions to the seasonal adjustments, since they will already take into account the latest information on emerging changes in seasonality; revisions will be more frequent, but revisions other than to the same period a year earlier (as new information about seasonality in the latest month is reflected in the data for the same month in the previous year) are unlikely to be material.

As well as the move to current updating, the monetary statistics are now constructed using a new computer database and changed methods of calculation. These factors have led to revisions in the data:

- The strong growth in narrow money recorded in April was removed by current updating and replaced by a monthly growth rate in line with that seen over the previous six months.
- May's notes and coin and M0 growth increased from provisional rates of 0.5% and 0.2% to 0.7% and 0.5% respectively.
- Current updating has had little impact on the 12-month growth rates of narrow money: the rates for May have been revised down slightly, as have the shorter-period rates.
- The main reason for the generally downward revisions to M4's growth rates in the past three years is the revised treatment of the discrepancy in banks' reporting of their sterling domestic interbank business. Following a detailed investigation of its causes by the British Bankers' Association, most of the sterling interbank difference is now included in M4 itself. The contraction of the discrepancy (a net liability of UK banks) in recent years has reduced M4's growth rate.
- Current updating and the use of the new database has had little impact on M4 lending. There have been only two months since April 1993 when the monthly growth rates have differed at all.

power. In addition, with average bank and building society deposit rates falling slightly over recent months, competition from other investment products has continued, prompting several building societies to offer other forms of investment, such as the recently launched stepped fixed-rate bonds. The depositing behaviour of industrial and commercial companies (ICCs) has also contributed to the deceleration in retail deposits: following the strong rise of £3.2 billion in the first three months of 1994, ICCs' holdings of M4 deposits increased by only £0.7 billion, the smallest increase since the fourth quarter of 1992.

The Bank's Divisia measure of money, which weights the various components of M4 according to their transactions characteristics, confirms the above sectoral analysis. Following four consecutive quarters of increases, the annual growth rate of aggregate Divisia

fell in the second quarter from 5.9% to 3.5%. Both personal and corporate sector Divisia fell 0.6% over the quarter; their annual growth rates stood at 2.3% and 8.0% respectively in June, compared with 4.5% and 10.8% in March. The scale of these declines is related to the fall in both personal and corporate retail deposits, the components that receive the highest weighting within Divisia.

Following the recent recession, credit growth has remained subdued. The annual growth rate of lending by banks and building societies was 3.5% in June, well under half the annual rate recorded at comparable points in previous recoveries. Lending to individuals increased by £5.9 billion in the second quarter, compared with £6.2 billion in the previous quarter. Within this, lending for house purchase rose by £4.9 billion (deflated by £0.2 billion of securitisations), below the £5.6 billion (inflated by a £0.2 billion transfer of loans) recorded in the first quarter of 1994, but slightly higher than the quarterly average in 1993.

This pattern is consistent with the slight downturn in housing market activity seen in recent months (see Section 3), which in turn might be related to the increasing rates charged on fixed-rate mortgage products. Since the *May Report*, average three and five-year fixed rates have increased by around 1.5 and 1.7 percentage points respectively and now exceed the average variable rate. Mortgage lenders have recently been offering attractive discounted mortgages and cash incentives in an attempt to persuade individuals to take up variable-rate products.

Lending for consumption, however, increased by £1.0 billion, the strongest quarterly rise since the first quarter of 1990; the increase was entirely accounted for by banks. In particular, the rise in bank credit card lending, at £0.4 billion, was the strongest since 1990 Q4, and other consumer credit went up by nearly £0.6 billion, the highest rise since the third quarter of 1992.

Following seven consecutive quarters of net debt repayments, unincorporated businesses borrowed £0.1 billion in the second quarter. This rise in borrowing, albeit slight, indicates that the scaling-back of these businesses' liabilities may be largely complete and that a greater proportion of future income may be used for spending, rather than to repay existing debt.

Is M0's growth worrying for inflation?

May's *Inflation Report* highlighted the continued growth of M0 above its monitoring range as a risk to the inflation outlook. Annual M0 growth stood at 6.0% in April. Thereafter it peaked at 7.0% in May and has subsequently fallen back to 6.5% in July. This raises two questions. Can we explain the current growth of narrow money? And does it suggest higher inflation in the future?

Previous Bank research, summarised in an article published in the February *Quarterly Bulletin*,⁽¹⁾ examined the determinants of M0 and provided a framework within which to answer these questions. It concluded that the three main determinants of M0 are: (i) economic activity; (ii) the level of interest rates; and (iii) the rate of innovations in the use of cash. This last factor evolves slowly, and determines the trend in the velocity of M0.

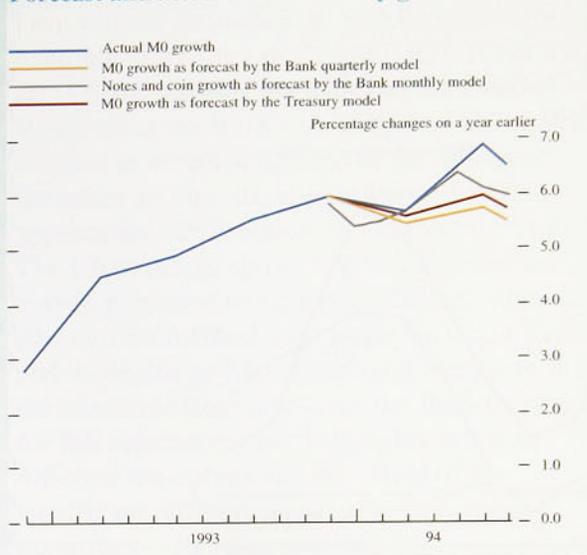
The analysis (based on monthly and quarterly observations) found that the activity measure most closely related to M0 is retail sales, and that the trend in velocity is best proxied by a term that cumulates interest rates. These monthly and quarterly models have since been re-estimated over a longer sample period (to 1994 Q1), which resulted in a significant reduction in the interest sensitivity implied by the monthly model.

The Chart reports forecasts based on this model, conditioned on the end-1993 level of narrow money, when the level of M0 was probably close to trend. In addition, a forecast based on the Treasury's quarterly M0 model is shown. This model is somewhat different, using GDP as its activity measure and a time trend to proxy developments in trend velocity.⁽²⁾

The annual growth in narrow money is currently 1/2% to 1% more than these models would have forecast at the start of the year. These differences emphasise how sensitive forecasts are to the precise empirical relationship assumed between M0 and its determinants. This is especially clear when comparing the Bank's monthly and quarterly model forecasts, which are based on a common theoretical framework.

This suggests that undue weight should not be placed on any single point forecast. Nevertheless,

Forecast and actual narrow money growth



the conclusion that it is not easy to explain all of the increase in narrow money growth since the beginning of the year seems reasonably robust. Furthermore, on the basis of the latest outturns, all three models forecast an average monthly growth rate for narrow money in the region of 0.3% to 0.4% over the next five months. This would result in a decline in the annual rate to around 5 1/2% to 6 1/4% by the year-end.⁽³⁾

In the past, increases in the growth of M0 have tended to lead increases in inflation. But the statistical relationships between future inflation and M0 do not have a firm structural basis. In particular, there are factors which econometric models do not take account of which could boost M0's annual growth at any particular point in time without stimulating inflation—for example, changes in employment trends that reflect increased cash, rather than direct bank transfer, wage settlements, or black economy growth. But data on all these are very scarce, making assessment of the possible quantitative importance of these factors very difficult.

Thus, if M0 growth remains at its present rate throughout the rest of the year, concerns over future inflation would increase, even though factors whose influence we cannot measure might distort this signal.

(1) 'The determination of M0 and M4', February 1994, *Quarterly Bulletin*, pages 46-50.

(2) The Bank and Treasury quarterly models estimate relationships based on M0, whereas the Bank monthly model estimates a relationship for notes and coin. Notes and coin account for around 99% of M0.

(3) Each forecast is based on unchanged interest rates and forward extrapolation of the average growth rate over the other model variables observed in the year to date.

Chart 2.2
ICCs' borrowing from banks and building societies

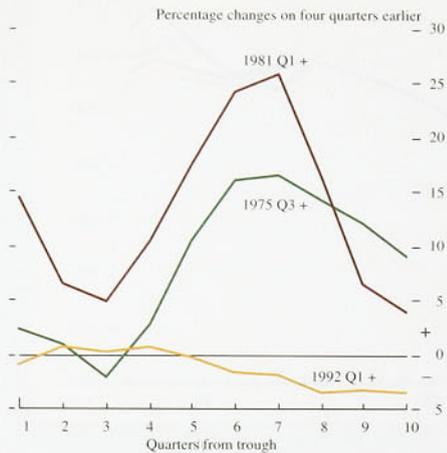
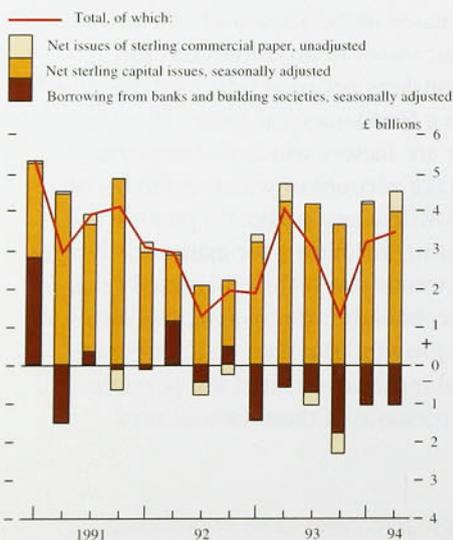


Chart 2.3
Estimated total quarterly sterling borrowing by ICCs



ICCs have repaid borrowing from banks and building societies in each of the last six quarters. As in the first quarter, ICCs repaid debt in the region of £1.1 billion in Q2. This sustained debt repayment during the present economic recovery contrasts sharply with the marked increase in ICCs' borrowing in earlier recoveries—see Chart 2.2. This illustrates the key role that companies' balance-sheet restructuring is playing in the current recovery. It is possible that even now residual debt remains at higher levels than companies regard as satisfactory. For the corporate sector, bank finance appears to have been replaced by a combination of net capital issues and retained earnings (savings).

There has been a marked shift in the current recovery towards capital market finance, in comparison with earlier recoveries. In the most recent quarter, ICCs' sterling capital issues remained relatively buoyant at £3.9 billion, compared with £4.1 billion in the first quarter of 1994 and a quarterly average of £3.8 billion in 1993. ICCs' total sterling borrowing, including commercial paper, is estimated to have increased by £3.4 billion, compared with £3.1 billion in the previous quarter (Chart 2.3). There is evidence of companies postponing share issues because of the recent turbulence in the financial markets. In particular, in June ICCs' capital issues would have been markedly lower but for the sizable Eurotunnel issue. However, if financial market turbulence continues to subside, ICCs' use of non-bank finance might increase in the coming months. ICCs' retained earnings have increased steadily, from a trough of 6.6% in the first quarter of 1992 to 10.2% of GDP in the first quarter of 1994.

These developments in capital market issues and retained earnings suggest that there are substantial funds available in the company sector to finance increases in discretionary spending.

Other financial institutions borrowed £0.5 billion in the second quarter, following a small repayment of £0.3 billion in the first quarter. The weakness in OFIs' bank borrowing is largely explained by securities dealers. Over the past six months, borrowing by the gilt-edged market has fallen considerably, although the scale of repayments of bank borrowing was much lower in the second quarter than in the previous three months. Gilt-edged market-makers built up their stock of gilts substantially in 1993, largely financed by bank borrowing. In the past six months, however, they have fully unwound their long gilt position. Although this

Estimating market expectations of inflation

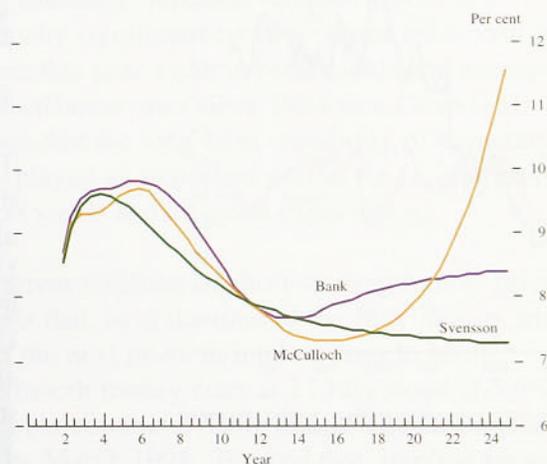
Charts showing estimates of bond market expectations of inflation at a range of future dates were first published in the May 1993 *Inflation Report*. Since then, research into the appropriate method has continued. The Bank's preliminary work was discussed at a one-day conference in March organised by the Bank, in which researchers from other central banks and academics took part. Their comments and further research have suggested a number of possible alternative methods to that used currently by the Bank. These issues are outlined here and explored in more detail in an article in the August edition of the *Quarterly Bulletin*.⁽¹⁾

The simplest method for deriving estimates of inflation expectations is to subtract the yield on an index-linked gilt from the yield on a conventional gilt. There are several problems in trying to interpret such numbers as estimates of market inflation expectations. First, the yield on an individual gilt (particularly on a conventional) can be distorted by a number of factors—not least by the size of its coupon payments. This means that two bonds with the same maturity may have significantly different yields. Second, there are 'gaps' in the maturity spectrum for which there are no bonds—moreover, only one of the required pair may exist at a particular maturity of interest. Finally, such measures represent *average* inflation expectations over the whole maturity in question, whereas for the purpose of monetary policy analysis it is the *marginal* rates (ie expectations of the short-run rates that will apply in the future) that are perhaps of more interest.

To avoid such problems, it is necessary to estimate *yield curves* for both the conventional and index-linked gilt markets. A continuous curve will provide an expectation for every maturity of interest. Having estimated the yield curve, it can be transformed uniquely to an *implied forward rate curve* that represents the marginal rather than the average rates.

However, there are a number of important issues in the estimation of yield curves—for example, how smooth should it be? How should bond-specific effects be removed? Research at the Bank has compared the current method to others suggested in the academic literature and has highlighted how different approaches can produce very different results. The Chart below shows implied forward rate curves produced using three different methods (the current method used in the *Inflation Report* and those due to McCulloch and Svensson in the academic literature—see the *Bulletin* article for full references) and highlights just how different the curves can be. Most of the significant differences occur at very long maturities—20 years or more.

Implied forward rates^(a)



(a) Based on prices on 7 June 1994.

Having decided on a model and adapted it to model the index-linked market so as to obtain a real yield curve, the implied forward inflation rate is derived by subtracting the real from the forward rate curve.

The *Bulletin* article outlines various yield curve models and presents the results of preliminary analysis carried out in the Bank comparing the methods. The performance of the models will be monitored over the next few months with the intention of identifying the most suitable in time for inclusion in the November *Inflation Report*.

(1) 'Estimating market interest rate and inflation expectations from the prices of UK government bonds' by Mark Deacon and Andrew Derry, *Bank of England Quarterly Bulletin*, August 1994 pages 232–40. Comments on the issues raised in the article and on the proposed changes in method will be most welcome.

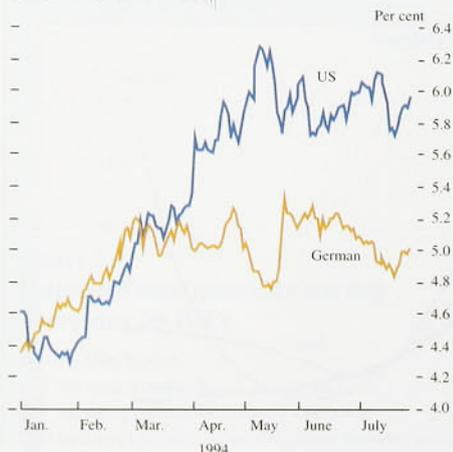
Table 2.B
Official interest rates overseas

Per cent per annum

	1993		1994			
	1 Mar.	2 Aug.	2 Nov.	2 Feb.	4 May	27 July
United States:						
Prime (a)	6.00	6.00	6.00	6.00	6.75	7.25
Discount	3.00	3.00	3.00	3.00	3.00	3.50
Japan:						
Discount	2.50	2.50	1.75	1.75	1.75	1.75
Call (a)	3.20	3.30	2.50	2.25	2.19	2.09
Germany:						
Discount	8.00	6.75	5.75	5.75	5.00	4.50
Lombard	9.00	7.75	6.75	6.75	6.50	6.00
France:						
Intervention	9.10	6.75	6.45	6.20	5.70	5.10
5-10 day repo	12.00	10.00 (b)	7.25	7.00	6.75	6.40
Italy:						
Discount	11.50	9.00	8.00	8.00	7.50	7.00
Advances	12.50	10.00	9.00	9.00	8.50	8.00

(a) These are not official rates.
(b) 24 hour repo.

Chart 2.4
US and German interest rate expectations
for December 1994^(a)



(a) Short-term interest rates expected to hold in December 1994 implied by December 1994 three-month futures contracts.

Table 2.C
Developments in financial markets of the G10 countries

Changes between 3 February and 27 July 1994: changes between 4 May and 27 July in *italics*

	Long-dated bond yields (a) (basis point change)	Equities (b) (percentage change)	Effective exchange rate (percentage change)
United Kingdom	219 32	-11.7 0.4	-4.0 -1.3
United States	156 21	-6.2 0.6	-5.4 -3.2
Germany	111 36	-0.5 -4.8	3.2 1.9
France	147 26	-11.5 -4.0	2.2 2.1
Japan	89 50	-0.2 2.9	6.3 2.0
Italy	243 163	4.4 -11.2	-1.0 -3.1
Canada	284 97	-9.3 -3.2	-5.7 -0.6
Sweden	358 168	-8.2 -3.5	-4.8 -4.3
Switzerland	101 33	-16.3 -5.5	1.2 2.0
Belgium	139 44	-4.6 -5.8	2.6 1.1
Netherlands	121 13	-5.5 -0.6	2.4 1.4

Sources: Financial Times & Bloomberg.

(a) Ten-year benchmark government bonds.

Bonds mature in 2004 except for German 6% 2003.

(b) Share indices used are FT-SE 100 (United Kingdom), Dow Jones Industrials (United States), DAX (Germany), CAC 40 (France), Nikkei 225 (Japan), MIB General (Italy), Composite (Canada), AffarsvardenGen (Sweden), SBC General (Switzerland), BEL20 (Belgium), CBS TlRtnGen (Netherlands).

will have been a factor in recent market falls, its impact will have been reduced by the unwinding of swap positions which hedged the initial build-up of gilt positions.

Turning to the other counterparts of M4, the public sector contribution (PSBR net of gilt sales to the M4 private sector) totalled £4.5 billion in the second quarter, compared with £8.2 billion in the previous quarter. These sizable contributions in the first six months of 1994 were partly explained by the lower take-up of gilts by the M4 private sector during the bond market turbulence. Total external and foreign currency flows made a large negative contribution (£3.8 billion) to M4 growth in the second quarter, following four successive quarters of positive contributions. This is largely explained by the substantial increase in net foreign currency deposits held by the private sector which, in turn, appears related to OFIs' increasing foreign currency deposits.

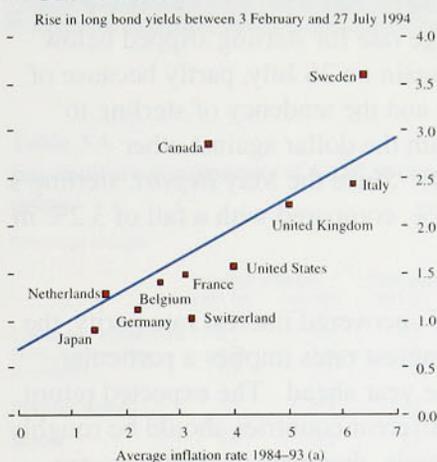
2.2 Interest rates and exchange rates

Market developments

The financial markets have remained volatile in the past three months. In May and June the bond markets were affected, in June and July the foreign exchange markets. UK gilts and equities weakened in May and June, and the same was true of other European countries and the United States. More recently, all European markets—and particularly the UK bond market—appear to have steadied.

Although official rates in the United Kingdom have not changed since February, several G10 countries have altered their official rates since the *May Report* (Table 2.B). The Federal Reserve raised the target federal funds rate by a further 50 basis points on 17 May. This took the rate up to 4.25%, from 3.0% at the start of this year. Market expectations about future US rates have been repeatedly revised upwards during the year. For example, the future US rates implied by futures prices stood at 5.2% and 6.0% for September and December contracts on 27 July, compared with 4.1% and 4.4% respectively on 2 February. However, expectations have fallen slightly since the *May Report* (see Chart 2.4). In Germany, the Bundesbank cut its discount and Lombard rates by 50 basis points on 11 May. The cuts were larger than the markets had expected, so (although the Bundesbank has continued to

Chart 2.5
Rise in bond yields and past inflation
—G10 countries



(a) Source: OECD Economic Outlook, December 1993.

Chart 2.6
Implied forward nominal interest rates

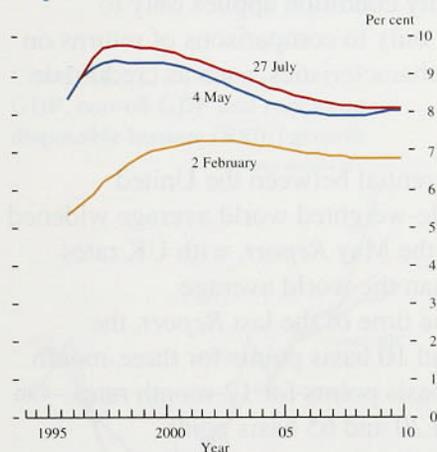
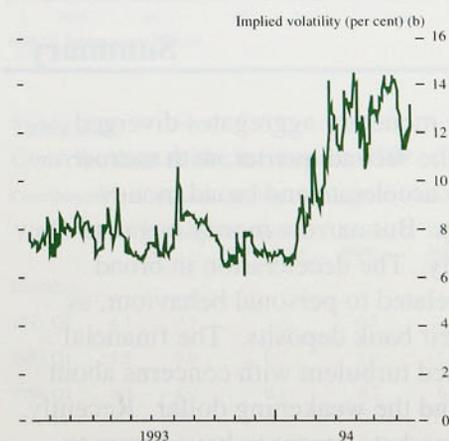


Chart 2.7
UK implied bond market volatility (a)



(a) Derived from option on LIFFE long gilt future.
(b) The annualised daily standard deviation of continuously compounded returns.

ease repo rates⁽¹⁾) the markets initially raised their expectations of future German rates: Deutsche Mark futures prices reached a local trough on 23 May, suggesting three-month money at 5.3% in December 1994. Expectations have since come down slightly: interest rate futures on 27 July suggested three-month money at 4.9% in September, rising to 5.0% in December and 5.2% in March of 1995. These compare with 4.9%, 5.0% and 5.1% respectively on 4 May.

Table 2.C summarises developments in G10 financial markets since the Federal Reserve's move in early February and during the period since the *May Inflation Report*. Yields in all major bond markets have risen further since May. Since early February, the strongest rises in ten-year government bond yields have been in the United Kingdom, Italy, Canada and Sweden. During the rally in 1993, these countries' bond prices rose most sharply.

The pattern of this year's reversal seems to be linked also to countries' inflation records. There is a statistically significant cross-sectional relationship between this year's rise in bond yields and average annual inflation rates since 1984 (see Chart 2.5). This suggests that the long-term credibility of monetary policy played an important part in the recent behaviour of bond yields and inflation expectations.

The current structure of short-sterling futures prices suggests that, as at the time of the *May Report*, markets expect the next move in interest rates to be up. Three-month money rates at 27 July stood at 5.6% for September contracts, rising to 6.3% by December and 7.0% by March 1995. Beyond that, implied forward rates suggest that short-term interest rates are expected to reach a peak of just under 10% around the year 1998 (Chart 2.6). Since May, the implied inflation rate in the medium term has shifted down (see Chart 6.5 on page 45); peak expectations are now about 6.0%, at maturities around 2000.

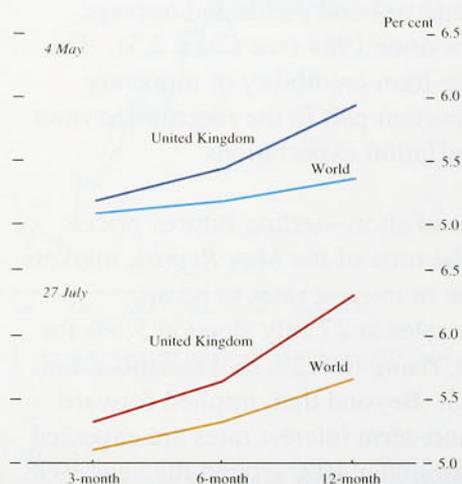
That the bond markets remain disturbed is evident from the implied volatility on long gilt futures contracts (see Chart 2.7). This suggests that uncertainties have remained at similar levels to those at the time of the last *Report*. Given these uncertainties, the interpretation of day-to-day movements in implied forward interest and inflation rates must be guarded. Implied forward

(1) The Bundesbank announced on 21 July plans for a series of fixed-rate repos at a constant 4.85% rate over the following four weeks, a further reduction of three basis points.

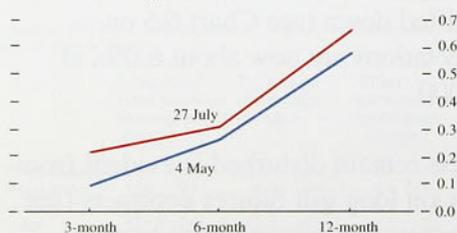
Table 2.D
Sterling exchange rates

	1993			1994		
	5 Feb.	2 Aug.	2 Nov.	2 Feb.	4 May	27 July
Sterling ERI	77.7	81.4	80.9	81.9	79.6	78.6
US dollar	1.45	1.48	1.48	1.50	1.50	1.53
Deutsche Mark	2.40	2.55	2.51	2.59	2.49	2.41

Chart 2.8
UK and trade-weighted world interest rate



UK trade-weighted interest rate differentials



inflation rates have fluctuated either side of their level at the time of the *May Inflation Report*.

The effective exchange rate for sterling slipped below 79.0 on 12 July and again on 26 July, partly because of the weakening dollar and the tendency of sterling to move in sympathy with the dollar against other currencies (Table 2.D). Since the *May Report*, sterling's ERI has fallen by 1.3%, compared with a fall of 3.2% in the dollar's index.

On the assumption of uncovered interest rate parity, the pattern of expected interest rates implies a particular path for sterling in the year ahead. The expected return on similar assets in different countries should be roughly the same. If, for example, domestic interest rates are higher than foreign rates, this means that sterling is expected to depreciate slightly, to offset the interest rate differential. This parity condition applies only to expected returns, and only to comparisons of returns on assets with common characteristics, such as credit risk and liquidity.

The interest rate differential between the United Kingdom and the trade-weighted world average widened over the period since the *May Report*, with UK rates increasing by more than the world average (see Chart 2.8). At the time of the last *Report*, the differential was around 10 basis points for three-month interest rates and 60 basis points for 12-month rates. On 27 July, it was around 20 and 65 basis points respectively. This implies that sterling's effective rate is expected to fall over the next year by slightly more than was the case at the time of the last *Report*.

2.3

Summary

The signals from the monetary aggregates diverged slightly for most of the second quarter, with narrow money continuing to accelerate and broad money growing more slowly. But narrow money began to slow down in June and July. The deceleration in broad money seems to be related to personal behaviour, as individuals adjust their bank deposits. The financial markets have remained turbulent with concerns about the world recovery and the weakening dollar. Recently, however, European markets appear to have begun to stabilise.

Table 3.A
Expenditure components of GDP at constant 1990 prices

Percentage changes	Quarterly changes		Four-quarter changes	
	1993 Q4	1994 Q1	1993 Q4	1994 Q1
Consumers' expenditure	1.1	0.6	3.2	3.5
Public consumption	-0.3	0.6	1.0	2.5
Investment	2.5	2.1	1.3	3.2
Domestic demand	1.3	0.4	2.8	3.0
Exports	0.6	2.3	3.1	4.4
Total final demand	1.2	0.8	2.9	3.3
Imports	2.7	0.8	3.7	4.1
GDP at factor cost	0.8	0.7	2.6	2.9

Chart 3.1
GDP, non-oil GDP and real national disposable income (RNDI) growth

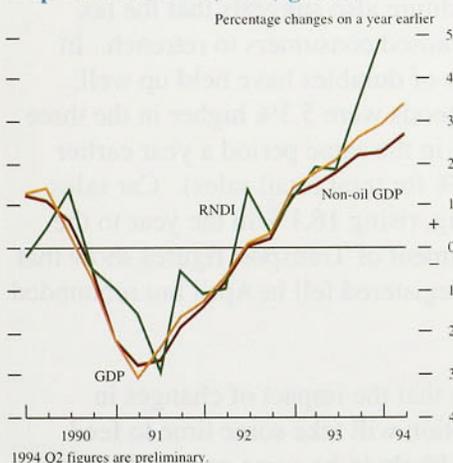


Table 3.B
Contributions to the increase in GDP

Contributions in the eight quarters from the trough of recession

Period to:	GDP	Consumption	Government expenditure	Investment	Stock building	Trade
1977 Q3	6.1	0.3	—	-0.3	1.5	4.4
1983 Q1	5.5	3.0	0.7	2.0	2.5	-2.8
1994 Q1	4.3	4.0	0.1	0.7	0.7	-0.5

Non North Sea output rose by 0.6% during the first quarter and by 2.3% in the year to the first quarter. Total output rose by 0.7% in the quarter and 2.9% over the year. According to the preliminary estimate, growth in non North Sea output rose by 0.8% in the second quarter and by 2.7% in the year to the second quarter.

A recent survey by HM Treasury of forty outside forecasters revealed a median projected growth rate of GDP of 2.8% in 1994 and 2.7% in 1995—slightly above trend. Most forecasters have revised their projections upwards from a few months ago. However, the distribution of forecasts is widely spread and the underlying interest rate assumptions also range widely, from 4.2% to 6.1% in 1994 and from 4.5% to 10.0% in 1995.

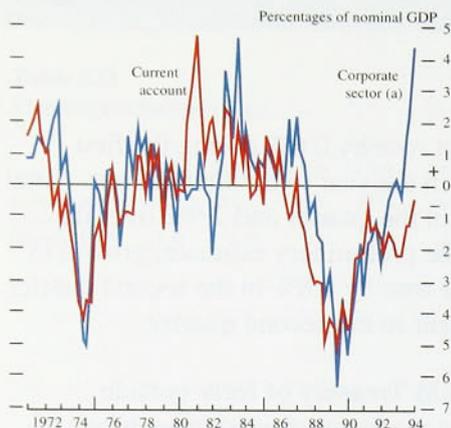
3.1

Demand

Domestic demand rose by 0.4% in the first quarter; compared with a year earlier, it was up by 3.0%, with both consumers' expenditure and investment increasing by over 3% (Table 3.A). A £0.5 billion rise in earnings on overseas direct investment in the first quarter contributed to real gross national disposable income rising by 4.9% on a year earlier (Chart 3.1).

Table 3.B compares the shape of present recovery with the last two recoveries. It shows that, whereas recovery was driven by net external trade in the 1970s and by a combination of consumption, investment and stockbuilding in the 1980s, the present recovery has been dominated by consumption, following a relatively large fall in consumption during the last recession. Sectoral financial balances tell a similar story. Chart 3.2 illustrates the financial correction underway in the corporate sector, where high profitability and low investment have led to an improved financial position (see below). The personal sector was reducing its rate of saving until the beginning of this year, so that its surplus declined until 1993 Q4 (Chart 3.3). Chart 3.3 also illustrates the rise in the public sector deficit during the later stages of sterling's membership of the ERM, when real interest rates were high. Last year's budgetary measures will lead to a reversal in the public

Chart 3.2
Corporate sector financial balance and current account



(a) ICCs plus financial companies and institutions.

Chart 3.3
Public and personal sector financial balances

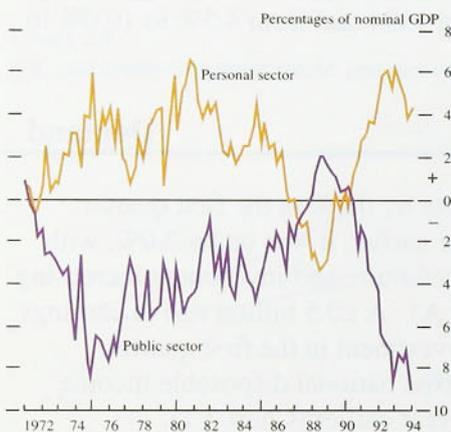
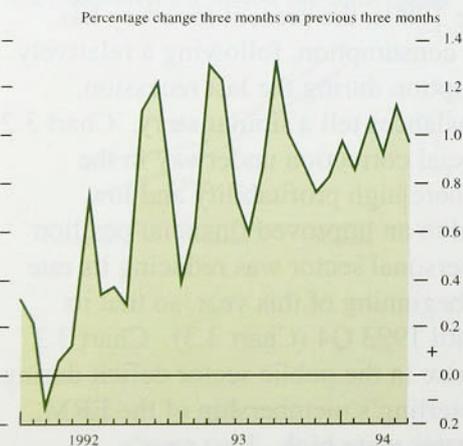


Chart 3.4
Retail sales volume



sector deficit in the years ahead (the PSBR is projected to fall below 3% by 1996/97 and be in broad balance by 1998/99).

Personal sector

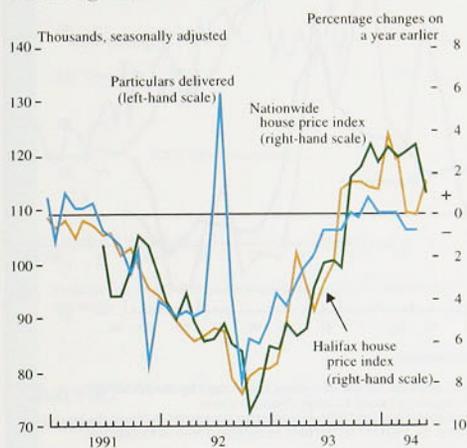
Consumers' expenditure rose by 0.6% in the first quarter, to a level 3.5% higher than a year earlier. Real personal disposable income also rose strongly in the quarter (by 0.7%), largely reflecting a 2.1% rise in nominal earnings from employment (1.9% in real terms, deflated by the TPI). The saving ratio therefore rose very slightly, following two quarterly falls. An important part of this rise was pre-payment of fuel bills in advance of April's imposition of VAT, which the CSO has classified as saving.

The growth of retail sales has been sustained in spite of April's tax increases, which were borne entirely by the personal sector. Retail sales rose slightly in June, and there continued to be robust underlying growth (1.0% comparing the last three months with three months earlier—see Chart 3.4). The composition of consumption expenditure also suggests that the tax increases have not caused consumers to retrench. In particular, purchases of durables have held up well; sales of household goods were 5.3% higher in the three months to June than in the same period a year earlier (compared with 3.9% for total retail sales). Car sales have also been strong, rising 16.1% in the year to the first quarter. Department of Transport figures show that the number of cars registered fell in April but rebounded in May and June.

Experience suggests that the impact of changes in income on consumption will take some time to feed through, so it is still likely to be some months before the full effect of the tax changes becomes clear. Survey evidence on the outlook for consumer demand is mixed. The CBI survey of distributive trades shows that retailers were pleasantly surprised by sales in June and expect a further improvement in July. The Dun and Bradstreet survey of business expectations in the third quarter, on the other hand, registered a sharp fall in the balance of retailers expecting an improvement in sales (46% from 57% in Q2) and a fall in the balance of firms expecting to raise prices (18% from 34% in Q2).

The housing market appears subdued, as a result of a combination of factors: the rise in fixed interest rates for mortgages; the reduction in mortgage interest tax relief; and the impact of more general tax rises on personal

Chart 3.5
Housing market activity



disposable income. According to the Halifax Building Society's index, house prices have fallen slightly over the six months to June, although they remain on average 1.5% higher than in June 1993 (Chart 3.5). The Halifax has revised down its forecast for house price rises to the end of this year from 5% to 2%–3%. But house prices have started to rise in the South East, the area which was most affected by negative equity (prices rose by 2.2% in the year to the second quarter, with prices for first-time buyers rising by 3.2%). The Nationwide's index has displayed rather different monthly movements: it has risen 1.2% over the past six months, but only 1.0% since June 1993.

Particulars delivered—a measure of activity in the housing market—have fallen from 112,000 in January to 106,000 in June, although they remain 7.1% higher than in June 1993. Although houses seem relatively 'affordable' (as measured by the ratio of house prices to earnings), the housing market seems subdued at present. However, land prices, tender prices and the price of construction material have all risen (albeit from a very low base—see the box on page 22 for details on land prices) and the figure for housing completions in May was the highest for over two and a half years, suggesting that builders may have been anticipating higher demand.

The current flatness of the housing market, while lowering the expected future cost of housing for the personal sector, will dampen the growth of personal sector wealth and may act as a depressing influence on consumption. At the end of 1992, 39% of total gross personal sector wealth consisted of residential property, 7% of bonds and equities, and 26% of claims on life assurance and pension funds. Bond and equity prices have fallen by around 10% since the start of the year, which implies a fall of approximately 3% in gross personal sector wealth, taking account of the direct impact on wealth and the indirect effect through life assurance and pension funds. Wealth changes, like tax changes, may feed through to consumption only with a lag. The indirect tax increases, both those already implemented and those to be implemented next year, and these wealth effects are perhaps the main sources of uncertainty surrounding the outlook for consumer spending.

Corporate sector

Corporate finances are looking increasingly strong: profitability and retained earnings were high in 1994 Q1

Land prices

Recent developments in land prices

Recent rises in land prices have raised concerns about a possible future increase in house price inflation. Savills Residential Research estimate that the value of residential building land rose by 18% during 1993, taking it 20% above its trough in the first half of 1992. These increases are from a relatively low base: at the end of last year, land prices were still only 58% of their peak level, despite the recent large increase.

Land values have risen fastest in the South East—by almost 30% over 1993 (see the table). In general, the effect of increased demand on prices is greatest where supply is restricted, either physically or by planning regulations.

Regional building land prices

Percentage change

Region	Peak to trough	Since trough	1993
East	-60	16	16
West	-53	21	13
North	-30	19	11
South East	-54	28	28
All regions	-52	20	18

Source: Savills.

Behaviour of building firms

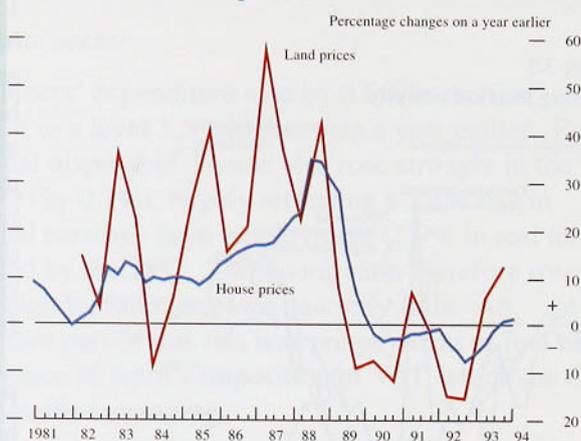
Reports from the Valuation Office and elsewhere indicate that builders have started to restock land-banks, which had been run down to very low levels. This reflects builders' expectations about future house prices, together with increased availability of finance to the construction sector. At least 17 property companies have undertaken share issues of over £20 million since the beginning of 1994, often explicitly with the purpose of financing land purchase. Meanwhile, company accounts data show that the average profit margin of quoted building and construction companies rose from -0.06% in 1992 to 1.83% in 1993.

Relationship between land and house prices

Movements in land and house prices tend to be similar (Chart A), although land prices have generally been more volatile than house prices. As Chart B shows, land prices rose considerably more than house prices during the boom in the mid to late 1980s, and fell further during the recession, a pattern which repeats previous cycles.

Causality between land and house prices could run in both directions. It is likely that builders' demand for land is driven by expectations about future conditions in the housing market, which will both affect and be affected by current house prices. Land price rises will tend to impinge first on the price of new houses, before filtering through the rest of the housing market. In practice, it is likely that builders will try to recoup some of their higher

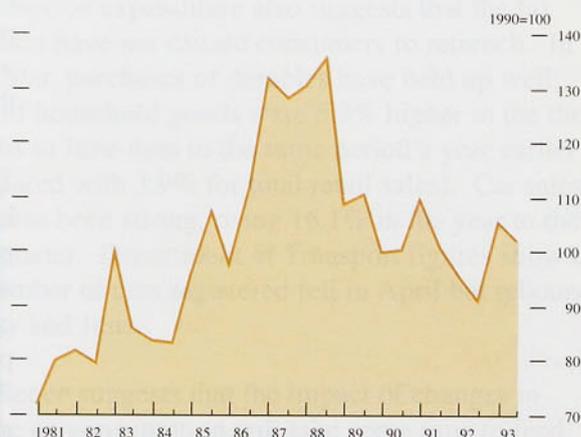
Chart A
Land^{(a)(b)} and house^(c) prices



Source: Department of Environment.

- (a) Price of land is the mean price per hectare of housing land bought by the private sector in England and Wales, recorded by Inland Revenue District Valuers.
 (b) Land price series is provisional beyond 1991; in particular, because of delays in the receipt of information, the figures for 1993 H2 reflect only an estimated 50% of transactions during that period.
 (c) House prices refer to England and Wales and are mix-adjusted.

Chart B
The price of land^{(a)(b)} relative to the price of houses^(c)



Source: Department of Environment.

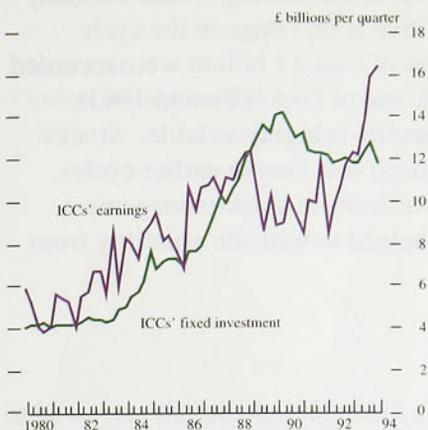
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 (b) Land price series is provisional beyond 1991; in particular, because of delays in the receipt of information, the figures for 1993 H2 reflect only an estimated 50% of transactions during that period.
 (c) House prices refer to England and Wales and are mix-adjusted.

costs by raising margins on current house sales. Indeed, prices of new and old houses tend to move very closely together.

Conclusions

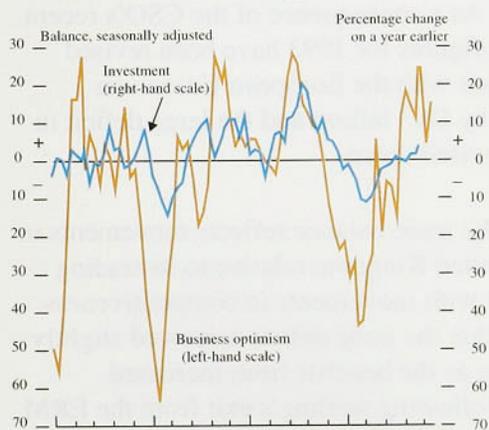
Although there has been a significant rise in land prices recently, it has occurred from a very low base. Because land prices are more volatile, this may not have an immediate effect on house prices. The rise may be a concern, however, in so far as it reflects builders' expectations about future house price increases.

Chart 3.6
Retained earnings^(a) and investment



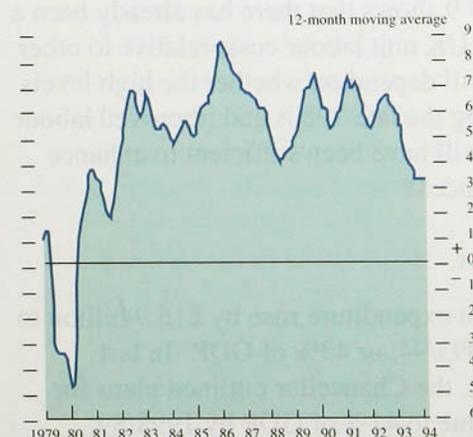
(a) Total income minus dividend payments, tax payments and interest payments.

Chart 3.7
Investment and business optimism^(a)



(a) Balance from CBI Industrial Trends Survey of those firms more optimistic about general business situation compared with four months earlier minus those firms less optimistic.

Chart 3.8
Real interest rates^(a)



(a) Three-month interest rate minus RPIX inflation over following three months, annualised.

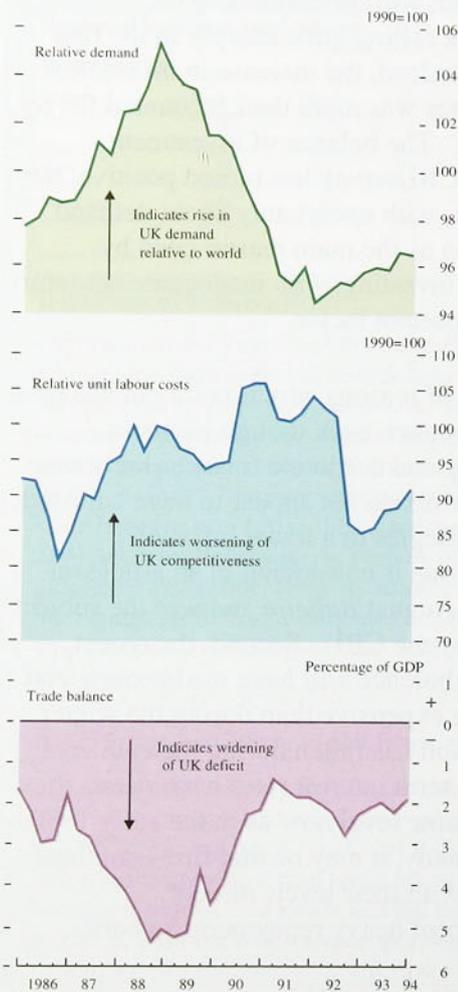
(see Chart 3.6). This reflected both productivity gains and greater cost control (see Section 5). The company sector as a whole has used its financial resources to repay large amounts of debt.

There have been tentative signs of a pick-up in investment, which rose by 2.1% during the first quarter, leaving it 3.2% higher than a year earlier. The output of investment goods gained strength in recent months, and was 4.9% higher in May than at the end of 1993 (the output of consumption goods rose by only 1.6% over the same period). And the measure of business optimism from the CBI survey—which tends to have a reasonably close relationship with actual investment—has been increasing (see Chart 3.7). The rise in investment has been patchy, however, with investment in the manufacturing sector falling quite sharply in the first quarter (by 2.7%). Indeed, the increase in investment during the first quarter was more than accounted for by general government. The balance of investment intentions from the CBI survey has turned positive, but remains rather weak, with uncertainty about demand regaining its position as the main reason cited by respondents for not investing, with inadequate net return the second most important factor.

There are a number of reasons why investment has been relatively slow to recover, even though business optimism is growing and corporate finances are strong. First, a number of firms do not appear to have adjusted their investment strategies to a lower inflation environment (this issue is considered in an article on pages 250–4 of the August *Bulletin* and was the subject of a recent survey by the CBI). Second, the recent financial market turbulence will have made equity and bond issuance more expensive than during the winter. Moreover, as inflation has fallen during the course of this year, real short-term interest rates have risen: they are roughly at the same level now as in the early 1980s (see Chart 3.8). Finally, it may be that firms continue to feel dissatisfied with their levels of debt, notwithstanding recent heavy repayments to banks.

The stockbuilding component of GDP was negative in the first quarter (- £0.4 billion), though this was entirely accounted for by the quarterly adjustment factor which is applied to bring the income and expenditure measures of GDP into line with the output measure. Stocks rose by £0.3 billion in the manufacturing sector, the second successive quarterly rise. Stocks were flat in the distributive sector as a whole, with a rise in wholesalers'

Chart 3.9
Relative demand, relative costs and the trade balance



stocks being offset by a fall in retailers' stocks. From a longer-term perspective, stockbuilding would normally be expected to be positive at this stage in the cycle (average quarterly rises of over £1 billion were recorded in the 1977-78 period, and of £0.6 billion in 1983), though the quarterly profile is highly volatile. Stocks have recently varied much less than in earlier cycles, suggesting that improvements in stock-management techniques may have helped to mitigate volatility from this source.

External trade

The United Kingdom's external trade deficit narrowed to £3.2 billion in the first quarter, following a (revised) deficit of £13.7 billion for 1993 as a whole. The improvement was largely the result of a rise in the oil surplus: excluding oil and erratics, the deficit was £4.4 billion, broadly similar to its quarterly average during last year. As a consequence of the CSO's recent quality audit, the figures for 1993 have been revised slightly: the deficit with the European Union was revised upwards by £0.3 billion and the large deficit in December was revised down.

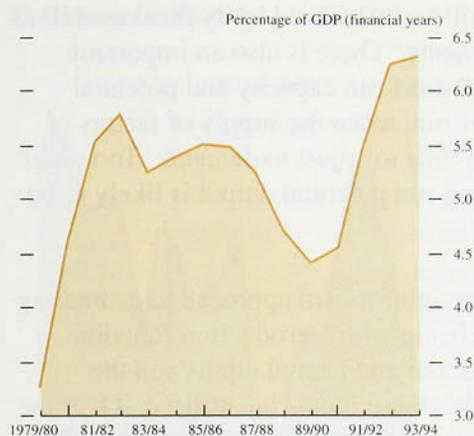
The outlook for the trade balance reflects movements in demand in the United Kingdom relative to its trading partners, together with movements in competitiveness. Chart 3.9 shows that the trade deficit narrowed slightly over the past year, as the benefits from increased competitiveness following sterling's exit from the ERM offset the increase in UK demand relative to its trading partners. However, the continuing recovery in the United Kingdom is likely at some stage to be reflected in higher demand for imports and in greater cost pressures which could have some adverse impact on the trade deficit, at least until recovery strengthens elsewhere. Chart 3.9 shows that there has already been a modest increase in UK unit labour costs relative to other countries. Much will depend on whether the high levels of investment during the late 1980s and improved labour market flexibility will have been sufficient to enhance UK trade performance.⁽¹⁾

Fiscal developments

General government expenditure rose by £16.9 billion to £276.7 billion in 1993/94, or 43% of GDP. In last November's budget, the Chancellor outlined plans for expenditure to decline to 41% of GDP by 1998/89.

(1) See the article on pages 223-31 of the August *Bulletin* for further details.

Chart 3.10
Cyclical social security^(a)



(a) Includes unemployment benefit, income support and family benefit.

Government expenditure made a small positive contribution to growth over the first quarter, and contributed around half a percentage point to growth in the year to the first quarter. Capital expenditure by general government made a substantial positive contribution to first-quarter growth (almost 1½ percentage points), but contributed only around a quarter of a percentage point in the year to the first quarter.

Given the sharp cyclical movements that have occurred over the last few years, it is interesting to examine the way in which government expenditure has evolved. Chart 3.10 shows cyclical social security payments, which are the most cyclically-sensitive elements of general government expenditure. There was a sharp rise in expenditure in the early stages of the recession, but the experience of the 1980s suggests a substantial reduction is in prospect for the coming years. This measure of cyclical social security payments accounts for approximately 10% of total government expenditure.

3.2

Supply

Survey evidence suggests that capacity usage is increasing across much of the economy. In the July CBI survey of manufacturers, 54% of firms say they are working below capacity, down from 59% in the April survey; this compares with 67% at the same stage in the previous recovery. The higher reported capacity utilisation in this recovery might reflect more intensive use of firms' labour—less labour hoarding—assuming that some firms take labour as well as capital into account in assessing their capacity. But only 38% of firms say that their fixed capacity is more than adequate, compared with 50% in the previous recovery. The British Chambers of Commerce survey, which covers both manufacturing and service sector firms, also shows a rise in capacity usage, but the survey has not been conducted for long enough to permit a comparison with the previous cycle. In manufacturing, 29% of firms now report themselves to be working at close to full capacity, up from 25% in the first quarter; and 22% of service sector firms report themselves to be at close to full capacity, up from 20% in the first quarter. Similarly, for the construction sector, the Building Employers' Confederation survey reports a sharp rise in firms operating close to capacity, to 36% in the second quarter.

Measuring how far the economy as a whole is from full capacity or potential output is a difficult task, and depends on assumptions about the supply of labour and

capital, and about the efficiency with which labour and capital are combined in the production process. For none of the variables is it straightforward to distinguish trend from cyclical components: for example, capital scrapping is likely to increase in recessions, and the supply of labour will be influenced by cyclical as well as structural developments. There is also an important distinction between short-run capacity and potential output in the longer run, when the supply of factors of production has had time to adjust to demand. Too rapid a move towards long-run potential output is likely to be inflationary.

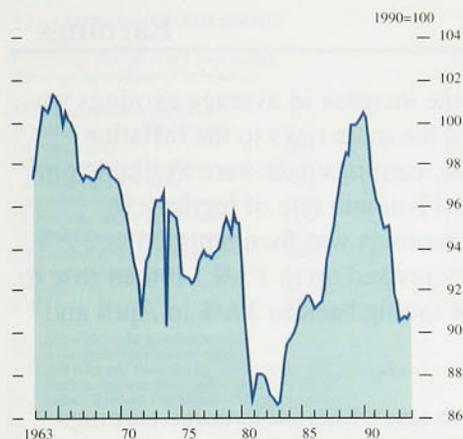
Perhaps the most straightforward approach to estimating an output gap is to begin with a production function relating output to labour and capital inputs and the efficiency with which these inputs are utilised. Over the past 30 years, output has tended to grow around 1 1/4% a year faster than implied by the growth of measured labour and capital inputs alone.⁽¹⁾ Since 1990, the labour force has fallen and growth in the capital stock has slowed. This will have tended to reduce potential supply, implying that the output gap is smaller than it would otherwise have been.

However, there are two other factors which need to be taken into account with respect to measured labour and capital inputs. First, several studies have suggested that the measured capital stock is overestimated, as the asset lives assumed in the calculation may be too long, with insufficient allowance made for scrapping. If the capital stock is overestimated consistently throughout the cycle, then this will have no effect on the estimate of the output gap derived from the production function approach. But if—as seems likely—there is accelerated scrapping during recessions, the overestimate of the capital stock increases.

Second, what matters for potential output is not the current labour force, but the long-run potential labour force and the natural rate of unemployment. The long-run potential labour force will depend on factors such as participation in education, early retirement and the extent of part-time working. Although these elements appear to have increased in the 1990s, this is probably due in large part to the decline in the demand for labour from its peak, rather than any long-term developments in supply. The natural rate of

(1) This 1 1/4% growth is a rough estimate of the so-called 'Solow residuals'. In principle, the trend in these Solow residuals would be expected to vary over time since technological changes, for example, are likely to display persistence. In practice, however, there is little difference between assuming a time-varying trend and a fixed trend growth rate of 1 1/4% a year.

Chart 3.11
Total hours worked^(a)



(a) Whole economy employment multiplied by average weekly hours worked in manufacturing sector.

unemployment will be influenced by the level of frictional unemployment and the institutional arrangements for wage-setting.

Chart 3.11 shows an estimate of total person-hours worked. If the level of hours worked in 1990 could be regarded as an appropriate benchmark for long-run labour input, then the current output gap would be estimated to be around 6%. This seems too high—potential output is likely to be lower coming out of a recession because of unrecorded scrapping of capital stock and the erosion of the skills of the unemployed. There is particular uncertainty about the level of the natural rate of unemployment—the choice of 1990's actual level is arbitrary. In fact, the chart shows that there has been a generally downward trend in person-hours worked over the past 30 years, suggesting the long-run level may be well below the 1990 peak, in which case the output gap would be correspondingly lower.

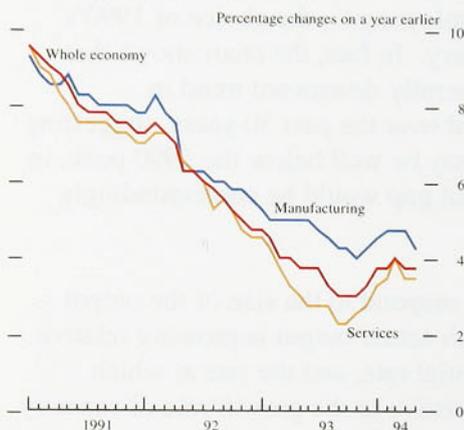
Inflation appears to respond to the size of the output gap, the rate at which actual output is growing relative to its long-run potential rate, and the rate at which output is growing relative to the growth rate of capacity in the short run.

3.3

Summary

Output continues to grow above its long-run potential growth rate. Consumption appears to be holding up, in spite of negative wealth effects and the impact of tax rises on personal disposable income. Recent financial market turbulence may have deterred firms from investing in the short term, but the underlying factors are encouraging, with profitability strong and business optimism recovering. The trade position is likely to deteriorate slightly, especially in the short run, given the United Kingdom's cyclical position relative to its trading partners.

Chart 4.1
'Underlying' earnings growth^(a)



(a) Underlying earnings growth is calculated by the Department of Employment and makes allowances for irregular events that affect earnings, including strikes, overtime and bonus payments.

Table 4.A
Average earnings growth (selected series)

	Employment weight	1994				Change since 1993 Q4
		Q1	Mar	Apr	May	
Production	0.289	4.7	5.1	4.5	6.8	+2.8
of which:						
Manufacturing	0.263	3.9	4.7	4.7	4.0	+0.1
Construction	0.055	2.0	1.3	1.5	2.4	+1.3
Agriculture	0.017	4.5	7.6	2.4	2.3	-0.1
Services	0.639	4.1	4.3	3.3	3.2	+1.0
of which:						
Distribution and repairs	0.167	3.8	4.4	4.1	4.2	+1.6
Education and health	0.120	0.2	1.2	1.9	1.7	+1.6
Banking, finance insurance and business services	0.093	3.2	5.7	3.2	4.4	+1.2
Whole economy	1.000	2.8	3.6	3.5	4.3	+1.5

Source: Employment Gazette Table 5.3, Employment Department.

4.1

Earnings

In the *May Report*, the increase in average earnings was highlighted as one of the main risks to the inflation outlook. At that time, earnings data were available only up to February. The 12-month rate of increase in *underlying* average earnings was then reported as 3½%, but was subsequently revised up to 3¾%. It then rose to 4% in March, before falling back to 3¾% in April and May.

The 12-month growth rate of *actual* average earnings was unchanged in March from its February rate of 4.5% (revised upwards from an initial estimate of 4.4%), fell to 3.6% in April and then rose to 4.3% in May. The latter increase almost entirely reflected the recent British Coal pay settlement, which contained a significant lump-sum payment giving pay back-dated to November 1993. Delays in the timing of settlements are apportioned as arrears in the underlying series and the coal settlement will therefore not affect greatly the June measure.

The 12-month growth rate of underlying average earnings in May was ¾ of a percentage point above its recent low of 3% between September and November 1993 (see Chart 4.1). Similarly, the 12-month growth rate of actual average earnings fell to 2.1% in October 1993, and since then has risen by over two percentage points to 4.3%.

All the broad industry groups in the economy recorded higher annual earnings growth in the three months to May than in 1993 Q4. Much of the increase in earnings growth in 1994 Q1 reflected higher bonus payments (most notably in banking, insurance and finance), but overtime payments and increases in basic wages also played a part (see Table 4.A).

Movements in the average earnings index are dictated by three key components: basic wages, bonuses and overtime payments. Basic wages, which account for about three quarters of total earnings, are mainly determined by wage settlements, which are often thought to 'lead' earnings growth. In fact, earnings and

Table 4.B
Earnings and settlements

Percentage change over a year earlier			
Previous month/quarter in brackets			
Wages and salaries per head	Q1	4.1	(2.7)
Whole economy actual average earnings (GB)	May	4.3	(3.6)
Whole economy underlying average earnings (GB)	May	3.75	(3.75)
IRS whole economy settlements (a)	June	2.5	(2.5)
IRS private sector settlements (a)	June	2.5	(2.5)
IRS public sector settlements (a)	June	2.5	(2.5)
CBI manufacturing settlements (b)	May	2.7	(2.8)
CBI services settlements	June	3.2	(3.2)
IDS (c)	May	3-3.9	(2-2.9)
LRD (b)(d)	May	2.5	(2.5)

- (a) IRS = Industrial Relation Services.
 (b) Average for three months ending.
 (c) IDS = Income Data Service. Modal class. NB latest figure based on very small sample compared with other observations.
 (d) Labour Research Department: Bargaining Report.

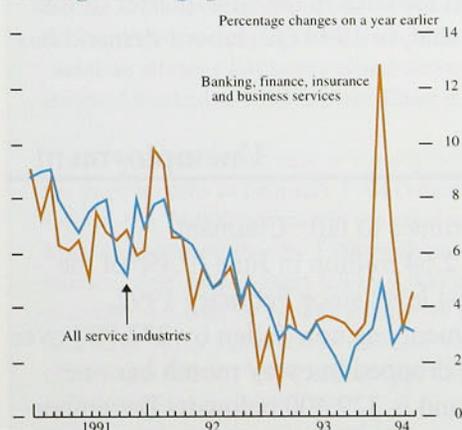
settlements data tend to have coincident turning-points, as shown in the August 1993 *Inflation Report*. Median pay settlements, as reported by Industrial Relations Services (IRS), increased by 0.5 percentage points after the August to December 1993 trough, to 2.5% in January, where they have remained since (see Table 4.B). The Labour Research Department (LRD) report a similar pattern. Their measure of settlements rose by 0.5 percentage points to 2.5% between December and February, and remained at this rate until May. The Income Data Service's (IDS) modal range of settlements rose in May to 3%-3.9%, from 2%-2.9% in April, having been unchanged since January. This May range is, however, based on a smaller sample than in previous months. The CBI also report settlements rising. Between the three months ending in February and the three months ending in May, they found settlements to have risen by 0.2 percentage points to 2.7% in manufacturing, and by 0.5 percentage points to 3.2% in services.

Major public sector groups, including doctors, dentists and teachers, have pay settlement dates in April. In previous years, these groups have experienced delays in reaching an agreement and have then had their awards back-dated. The underlying measure of earnings, which is a three-month centred moving average, had to be revised to reflect this delay. This year, all these groups have already settled, at 3.0%, 3.0% and 2.9% respectively. Therefore April's and May's earnings figures are a more accurate reflection of underlying earnings growth than has been the case previously at this time of the year.

Larger-than-normal bonus payments played a prominent role in the increase in earnings growth in February and March, especially in the services sector. There were two other important influences: some bonuses were paid a month earlier than usual; and many firms paid below-average bonuses last year. This is most clearly seen in the banking, insurance and finance sector (see Chart 4.2) where 12-month average earnings growth moved from 3.2% in 1993 Q4 to 12.8% in February 1994, 6.9% in March and back to 3.2% in April, as the change in both the level and pattern of bonuses took effect and then dropped out of the annual comparison.

The contribution of overtime payments is less clear. Data are available only for manufacturing, and then only for operatives—fewer than 70% of all workers in this

Chart 4.2
Average earnings growth in the service sector^(a)



(a) Data are actual average earnings.

Chart 4.3
Changes in unemployment
(Great Britain only)

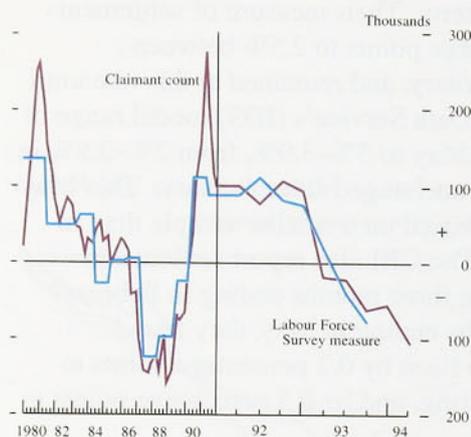


Table 4.C
Comparison of unemployment measures

Thousands; seasonally adjusted

	Labour Force Survey (GB)			Claimant count (GB)			
	Total un-employment	Change on previous period	Cumulative change	Total un-employment	Change on previous period	Cumulative change	
Spr. 89	2,010	-399		Mar. 89	1,741	-528	
Spr. 90	1,900	-110		Mar. 90	1,501	-241	
Spr. 91	2,334	+434		Mar. 91	2,063	+562	
Spr. 92	2,681	+347		Mar. 92	2,582	+518	
Sum. 92	2,756	+75		June 92	2,664	+83	
Aut. 92	2,818	+62		Sept. 92	2,768	+103	
Win. 92	2,909	+91		Dec. 92	2,859	+91	
Spr. 93	2,838	-71	-71	Mar. 93	2,828	-31	-31
Sum. 93	2,854	+16	-55	June 93	2,814	-14	-45
Aut. 93	2,809	-45	-100	Sept. 93	2,753	-61	-106
Win. 93	2,729	-80	-180	Dec. 93	2,672	-81	-187
				Mar. 94	2,589	-83	-270

sector. Between 1993 Q4 and 1994 Q1, overtime hours rose by around 3.5% which, according to the Employment Department, accounted for half the rise in earnings growth in manufacturing.

4.2

Employment

Employment according to the 'workforce in employment' measure, based on surveys of employers, grew by 122,000 between 1993 Q1 and 1993 Q4, before falling by 73,000 in 1994 Q1 (see the box on page 31). More timely employment data are available only for the manufacturing industry. This sector's employment has declined since 1978, on average by over 180,000 a year. Manufacturing employment fell by 12,000 between December 1993 and March this year, but increased by 5,000 in April and May, indicating a recent increase in labour demand, against the trend in this sector.

Vacancies data also indicate that labour demand in the whole economy increased in April and May. The (seasonally adjusted) stock of unfilled vacancies at Job Centres has increased in every month this year. Between December 1993 and March of this year, vacancies rose by 700, but by June they were a further 11,300 higher.

It is not unusual to receive contradictory signals from labour market indicators as the market moves from recession into recovery. At a turning-point, not all sectors will be moving in the same direction. This appears to have been the case in the first quarter of this year. The signs are that, in 1994 Q2, labour demand has increased.

4.3

Unemployment

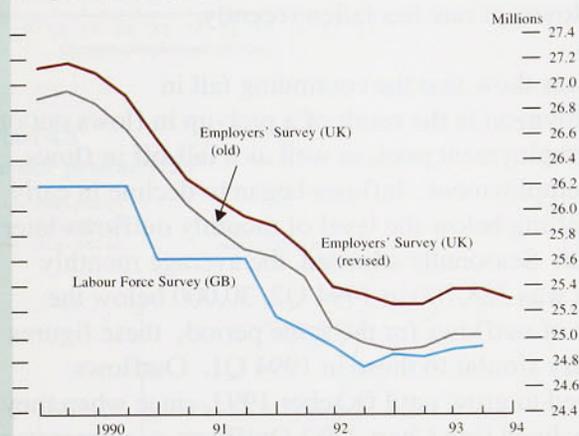
Unemployment continues to fall. Claimant unemployment was 2.64 million in June (9.4% of the workforce), its lowest level since February 1992. Claimant unemployment has now fallen by 272,800 over the last year, having dropped in every month bar one since August 1993, and is 329,400 below its December 1992 peak. This pattern (unlike that of the employment data) is corroborated by the Labour Force Survey (LFS), which in its winter 1993-94 survey found a fall of 80,000 in ILO⁽¹⁾ unemployment after a 45,000 fall in the preceding autumn (see Chart 4.3 and Table 4.C).

(1) The International Labour Organisation (ILO) international standard defines an individual as unemployed if he/she is without paid work in the reference week (of the survey), is able to start work in the next fortnight and has either looked for work at some time in the last four weeks or was waiting to start a job already obtained.

Employment: recent developments and data revisions

Data revisions have altered the estimated changes in employment in the last recession. It is now clear that employment fell less than previously thought, and has grown less in the upturn, leaving the level of employment higher than previously reported (see Chart A). The revisions stem mainly from a redesign of the sample of employers used to estimate employees in employment in the United Kingdom, and have brought the pattern of changes more into line with the Labour Force Survey (LFS) findings for Great Britain.

Chart A
Employment levels

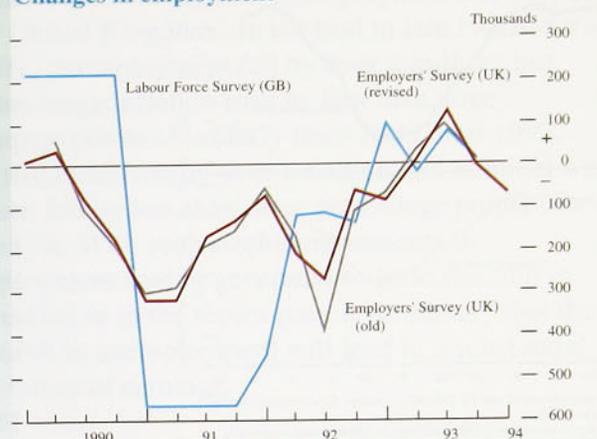


The estimated fall in employment between June 1990 and March 1993 has been revised down by 139,000 from 2.066 million, and the subsequent rise to December 1993 by 30,000 to 104,000, leaving the December level 327,000 higher. Much of the upward revision stems from increases in the estimates of self-employment. Among the employed, the extent of the switch from full to part-time working has been revised down. The changes are most marked in 1992 Q3 (see Chart B).

The LFS shows an increase in employment of 7,000 in the three months to February 1994 (winter LFS), following a 74,000 increase in the previous three months. Male employment rose by 7,000 with no change for women. Self-employment fell by 7,000 and the number of employees rose by 24,000, a tentative indication of recovery. A rise of 36,000 in full-time work, more than offsetting a fall of 17,000 in part-time employment, supports this view.⁽¹⁾

These findings are contradicted by the 'workforce in employment' series for the United Kingdom, which fell by 6,000 in 1993 Q4 (the period most comparable with the winter LFS), having increased by 122,000 in 1993 Q3. This series, though more erratic than the LFS, is more timely; during 1994 Q1 it fell by 73,000, indicating that any recovery in employment is weak at best.

Chart B
Changes in employment



The two sources are not strictly comparable, because of differing sample periods and coverage. The workforce in employment series is conducted in the last month of each quarter for the United Kingdom; the LFS is conducted for Great Britain only in the last month of one quarter and first two of the next, eg December, January and February for the winter LFS. The two measures have previously moved broadly together, with the same peaks and troughs, though their quarter-to-quarter movements have differed (see the table). A better comparison of the behaviour of the two employment series is the cumulative change in employment in the four quarters to end-1993. The workforce in employment measure increased by 29,000 during this period, while the LFS noted an increase of 149,000.

Comparison of employment measures

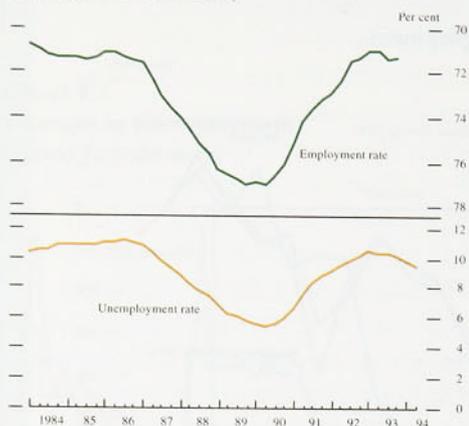
Thousands; *seasonally adjusted*

	Labour Force Survey (GB)			Employer-based (GB)		
	Total employment	Change on previous period	Cumulative change	Workforce in employment	Change on previous period	Cumulative change
Spr. 89	25,962	+877		Mar. 89	26,203	+869
Spr. 90	26,175	+213		Mar. 90	26,501	+298
Spr. 91	25,601	-574		Mar. 91	25,937	-564
Spr. 92	25,147	-454		Mar. 92	25,233	-704
Sum. 92	25,021	-126		June 92	25,203	-210
Aut. 92	24,900	-121		Sept. 92	24,749	-274
Win. 92	24,757	-143		Dec. 92	24,689	-60
Spr. 93	24,849	+92	+92	Mar. 93	24,601	-88
Sum. 93	24,825	-24	+68	June 93	24,608	+7
Aut. 93	24,899	+74	+142	Sept. 93	24,725	+117
Win. 93	24,906	+7	+149	Dec. 93	24,718	-7
				Mar. 94	24,644	-74

Both the measures imply that labour demand increased over 1993, but offer contradictory signals about 1994 Q1. Manufacturing employment, the only sector for which more timely data are available, increased by 5,000 in April and May, having fallen by 12,000 in the previous three months. Manufacturing accounts for only 20.3% of total employment; nonetheless this suggests that labour demand has increased recently.

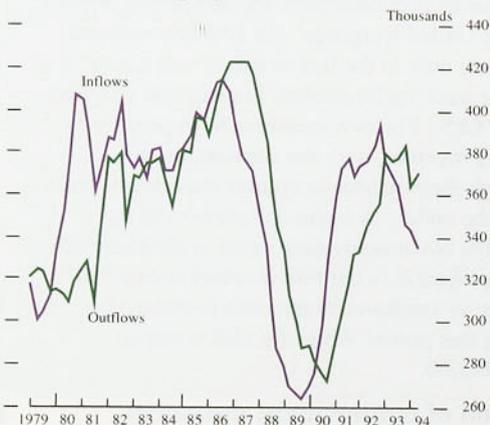
(1) The data do not sum to the total because those on government employment and training programmes and unpaid family workers are excluded from the series.

Chart 4.4
Unemployment^(a) and employment^(b) rates (Great Britain)



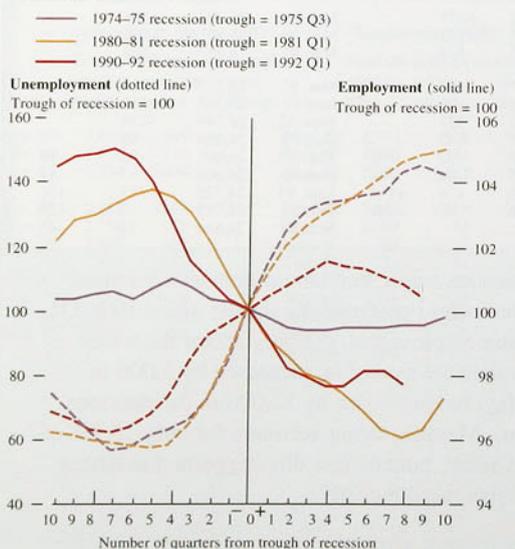
(a) Unemployment rate for GB only; source: Employment Gazette (Table 2.2).
(b) Employment rate = GB workforce in employment (seasonally adjusted) as a percentage of the GB population of working age (men 16-64, women 16-59); source: Employment Department data.

Chart 4.5
Claimant unemployment flows^(a)



(a) Quarterly data.

Chart 4.6
Employment and unemployment growth around recessions^(a)



(a) Employment level and unemployment rate rebased so that the trough of GDP equals 100.

Regional unemployment rates, which converged during the recent recession, are now falling in unison. Since March 1994, the unemployment rate has fallen by at least 0.1 of a percentage point in every region.

The employment rate—the proportion of the population of working age that is employed—rose by 0.2 percentage points during last year to 71.3% in 1993 Q4. It is likely that both the employment rate and the workforce fell in 1994 Q1. Some studies find that the employment rate is a better guide to labour market slack than the unemployment rate. As Chart 4.4 shows, the employment rate has not risen as fast as the unemployment rate has fallen recently.

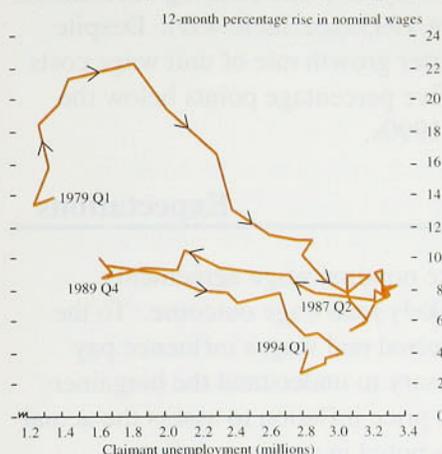
Flow data show that the continuing fall in unemployment is the result of a pick-up in flows out of the unemployment pool, as well as a fall-off in flows into unemployment. Inflows began to decline in early 1992, falling below the level of monthly outflows later that year. Seasonally adjusted, the average monthly inflows was 328,700 in 1994 Q2, 30,000 below the number of outflows for the same period; these figures were very similar to those in 1994 Q1. Outflows continued to grow until October 1993, since when they have declined (see Chart 4.5). Outflows as a percentage of the unemployment total—an approximation to the exit rate from the unemployment pool—have increased since the start of the year. Similarly, inflows as a percentage of the population—an approximation to the entry rate—have declined.

Those people who left the claimant count in 1994 Q1 did not appear to enter employment. The winter 1993 LFS reported an increase of 79,000 since autumn 1993 in the number of economically-inactive people, up 0.5% during the period, almost equivalent to the fall in both ILO unemployment (80,000) and in claimant unemployment (83,800) in this period.

It is not unusual for employment to continue to fall in the first two years of a recovery (as can be seen in Chart 4.6); what is unusual is for unemployment to fall so soon after a trough in output. This is the first time in 20 years that both claimant unemployment and the workforce in employment series have fallen simultaneously.

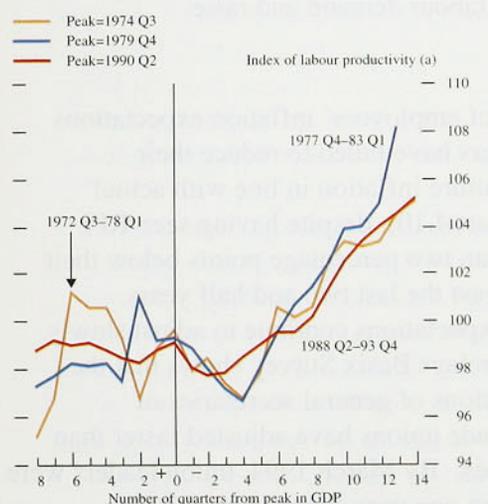
What are the likely consequences of these movements for earnings? Falls in unemployment are normally assumed to reduce the downward pressures on wages.

Chart 4.7
Nominal wage inflation and unemployment



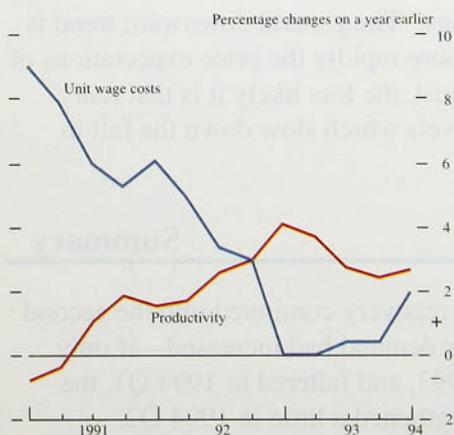
Workers feel more secure in their jobs and firms may feel the need to increase wages to attract labour as it becomes increasingly scarce. However, the responsiveness of wages to unemployment has been low in the United Kingdom. In the mid to late 1980s, for instance, unemployment fell by over a million, but nominal wage inflation rose by less than three percentage points. Similarly from 1989 until 1992, unemployment rose by over a million and nominal wage inflation fell by less than three percentage points (see Chart 4.7). With such sizable movements in unemployment having generated so little reaction in wage inflation in the recent past, it is unlikely that the recent fall in unemployment will lead to a substantial acceleration of earnings.

Chart 4.8
Labour productivity



(a) Each series has been indexed so that the average for the 22 quarter period, ie eight quarters prior to and 14 quarters post peak, equals 100.

Chart 4.9
Whole economy productivity and unit wage costs



4.4 Productivity

Labour productivity in the United Kingdom has been strongly procyclical. Over the recent recession and subsequent upturn, labour productivity first fell and then increased strongly. The pattern in duration, timing and relative scale was much as it had been in previous episodes (see Chart 4.8). There have been slight differences recently. In the previous two cycles, productivity continued to increase in the last stages of GDP expansion and then fell quite sharply a year after the peak. In the current cycle, productivity grew less rapidly in the final stages of GDP growth, recovered faster after output had begun to fall, and increased at a similar rate as in previous cycles during the early recovery phase. Otherwise the recent recovery remains very similar to those of the 1970s and early 1980s.

Whole economy productivity growth rose in 1994 Q1, by 0.9% on the quarter and 2.6% on a year earlier (see Chart 4.9). This was the result of continuing growth in output and the fall in employment discussed above. This is an increase on the yearly growth rates seen in 1993 Q4 but is below the 3.2% average level of labour productivity growth in 1993.

More timely data from the manufacturing sector confirm the continuing growth in labour productivity. Manufacturing output per head grew by 2.0% in the first quarter, 2.6% up on the same period in 1993, 0.4 percentage points higher than in 1993 Q4. Manufacturing productivity has since grown by 0.8% in the two months to May, the slight fall in the growth rate reflecting the increase in employment in this sector.

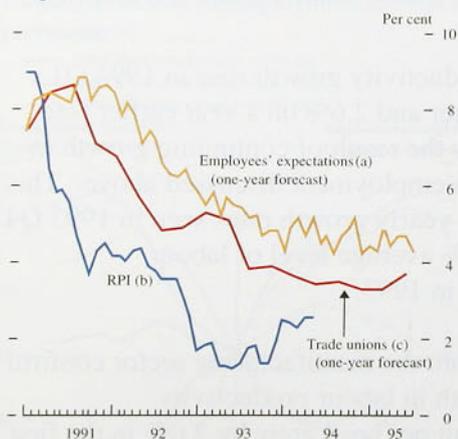
Table 4.D
Unit wage costs and their components

Percentage changes on same period in previous year

	Output	Employment	Labour productivity	Earnings per employee	Unit wage costs
(a) Whole economy					
1991	-2.3	-2.7	0.4	7.5	7.0
1992	-0.4	-2.5	2.2	6.6	4.3
1993	1.9	-1.2	3.2	3.4	0.2
1993 Q1	1.4	-2.4	4.1	4.0	—
Q2	1.6	-1.9	3.6	3.6	—
Q3	2.2	-0.6	2.7	3.1	0.4
Q4	2.6	0.1	2.4	2.8	0.4
1994 Q1	2.9	0.2	2.7	4.5	1.9
(b) Manufacturing industry					
1991	-5.3	-8.0	1.3	8.2	7.0
1992	-0.8	-4.2	4.4	6.6	2.0
1993	1.6	-3.4	4.1	4.5	0.4
1993 Q1	1.8	-4.2	6.2	4.7	-1.3
Q2	1.6	-3.4	5.1	4.9	-0.2
Q3	1.3	-1.6	3.0	4.4	1.3
Q4	1.6	-0.3	2.2	4.0	1.7
1994 Q1	2.1	-0.7	2.5	4.0	2.1

Note: Manufacturing employment and average earnings are based on SIC1980; manufacturing output is based on SIC1992.

Chart 4.10
RPI inflation vs employees' and trade unions' expectations of RPI inflation



(a) Based on Gallup Survey of Employees.
(b) Percentage changes on a year earlier.
(c) Based on the inflation expectations of the general secretaries of TUC-affiliated trade unions from the Barclays Basix Survey.

Whole economy unit wage costs rose in 1994 Q1, to a level 1.9% higher than a year earlier, having been almost unchanged throughout 1993 (see Table 4.D). Despite this rise, the four-quarter growth rate of unit wage costs remained more than five percentage points below the average level for the 1990s.

4.5 Expectations

Wage bargainers make nominal wage agreements bearing in mind the likely real-wage outcome. To the extent that future expected real wages influence pay bargaining, it is necessary to understand the bargainers' expectations of future price inflation to assess the actual nominal outcome. As noted in previous *Inflation Reports*, although monetary policy will not validate inflation outside the target range, excessive inflation expectations will push up real wage levels unnecessarily. This will reduce labour demand and raise unemployment.

Gallup's survey of employees' inflation expectations shows that workers have failed to reduce their expectations of future inflation in line with actual inflation (see Chart 4.10), despite having seen RPI inflation more than two percentage points below their forecasts for at least the last two and half years. Workers' price expectations continue to adjust slowly. However, the Barclays Basix Survey shows that the inflation expectations of general secretaries of TUC-affiliated trade unions have adjusted faster than those of employees. By March 1994, union leaders were expecting inflation one year ahead to be 3.3%, unchanged from December 1993 but 0.3 percentage points lower than in March 1993. The June survey saw price expectations increase to 3.7%. This finding, though, stems from a very small sample of union general secretaries and should therefore be seen as less reliable than previous findings. The general downward trend is encouraging. The more rapidly the price expectations of union bargainers adjust, the less likely it is that real wages will rise to levels which slow down the fall in unemployment.

4.6 Summary

The labour market's recovery continued into the second quarter. After labour demand had increased—if only slightly—through 1993, and faltered in 1994 Q1, the signs are that it strengthened a little in 1994 Q2. Conflicting signals from a range of indicators and

patchy employment growth are to be expected as the labour market moves from recession to recovery. Unemployment continues to fall, and the increase in vacancies and the recent turn-round in manufacturing employment indicate that employment should continue to rise. The slight tightening of the labour market is unlikely to have a substantial effect on the growth of earnings in the short term. Settlements data are mixed, but on average appear to have edged up in recent months. Some increase in nominal earnings growth is to be expected at this point in the cycle.

External influences

External influences affect the domestic economy through the effect of imported goods, or indirectly through the impact on the cost of imported raw materials. Whether changes in import prices have a direct or indirect effect on the domestic price level depends on the nature of the changes in import prices.

Changes in import prices can be classified into two categories: *temporary* and *permanent*. Temporary changes are those that are expected to be short-lived, while permanent changes are those that are expected to be long-lasting. The impact of temporary changes on the domestic price level is limited, as they are expected to be reversed. In contrast, permanent changes have a more significant and lasting impact on the domestic price level.

Changes in import prices can also be classified into two categories: *relative* and *absolute*. Relative changes are those that affect the price of imports relative to the price of other goods, while absolute changes affect the price of imports in absolute terms. Relative changes have a more significant impact on the domestic price level, as they affect the relative price of imports and thus the demand for them.



In the short run, changes in costs are often a leading indicator of changes in retail prices. Firms' pricing decisions are influenced by two sets of factors—supply and demand conditions. The supply-side factors include the cost of inputs and the technology used to combine these inputs to produce output. A firm's optimum price will also depend on how responsive demand is to changes in prices.

5.1 External influences

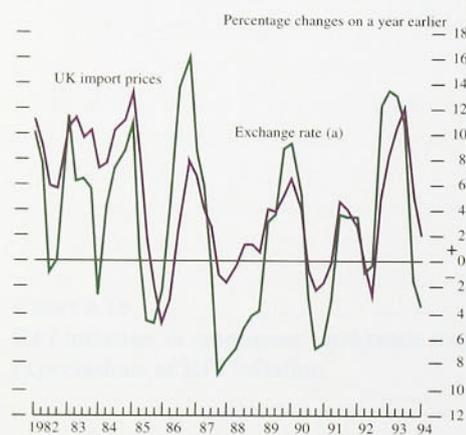
Sterling import prices affect domestic inflationary pressure either directly, through the effect of imported consumer goods, or indirectly, through their impact on firms' costs. Whether changes in import prices have implications for domestic inflation in the long run depends on the cause of the change in import prices.

Past movements in sterling import prices have been closely correlated with fluctuations in the sterling exchange rate (Chart 5.1). Between 1992 Q3 and 1994 Q1, for example, non-oil import prices rose by 12.6%, compared with a depreciation in the nominal effective exchange rate of 10.6%. This was brought about by sterling's withdrawal from the exchange rate mechanism—an example of a *monetary* shock, caused by a change in actual and expected monetary policy. Such a shock could have a permanent impact on inflation only if monetary policy changed permanently. It would be misleading in such circumstances to attribute the cause of increased inflation to import prices.

In general, *real* shocks—such as the recent increase in commodity prices (discussed below)—will lead to permanent changes in the price of imports relative to domestically produced goods. But such relative price changes need not have a permanent impact on domestic inflation. For example, if an increase in import prices were not accommodated by monetary policy, the rate of increase of other prices in the economy would be reduced, leaving the overall rate of inflation unchanged.

Whether changes in import prices affect the *terms of trade* (the ratio of export prices to import prices, or the measured real exchange rate) depends both on the cause

Chart 5.1
The UK exchange rate and non-oil import prices



of the change and on the extent to which foreign and domestic goods are close substitutes. For example, after the depreciation in sterling by around 12% following its departure from the ERM, both export and import prices rose by around 11% between 1992 Q3 and 1993 Q2, leaving the terms of trade broadly unchanged.

In the case of a real shock, such as a reduction in the supply of a particular commodity that the UK imports, the effect on the domestic economy depends on the composition of the United Kingdom's imports and exports. If the United Kingdom did not produce the commodity whose supply had been reduced, then import prices would increase relative to export prices and the terms of trade would fall. But if it produced a close substitute for the commodity in question, then the supply shock would affect both UK exports and imports, and the impact on the terms of trade would be limited.

Import and commodity prices

The Economist sterling index of non-oil commodity prices, which uses OECD trade weights, rose 7.0% in the second quarter of 1994. The Bank's estimated sterling index of UK-weighted non-oil commodity prices rose by 2.5% in the second quarter of 1994. Including oil, the price of which has risen strongly, the UK trade-weighted all-commodities index rose by 7.8%, the third quarterly rise in succession and the largest quarter-on-quarter rise since 1993 Q1.

Brent crude oil prices increased by nearly 16.5% over the second quarter. This increase appears largely related to geopolitical concerns and signs of increasing demand in the United States. The increases in non-oil commodity prices appear largely to reflect a mixture of supply-side constraints. Coffee prices, for example, have risen over 40% following severe frosts in Brazil and metal prices have increased by 7.8%, because of a series of reductions in smelter capacity.

In analysing the inflationary implications of these commodity price increases, it is important to recognise that inputs of fuels and materials account for only around 10% of the value of manufacturing output. In addition, non-oil commodities have fallen as a proportion of UK imports in recent years: Bank estimates suggest that they accounted for 9% of UK imports in 1990, compared with 17% in 1973. There will, of course, be a secondary effect through the prices of semi-manufactured imports, for example steel, yarn and paperboard, which have a

high commodity content, and which, in aggregate, account for 17% of manufacturing output value.

The impact of higher commodity prices on retail prices will be further diluted. A number of food prices, for example, will be insulated by the pricing arrangements of the Common Agricultural Policy (CAP). Non-CAP foods, however, will be affected—the increase in coffee prices is already affecting retail prices. But, continuing competition in the food-retailing industry suggests that companies will not immediately pass on the full increase in costs to their customers.

Supply-driven non-oil commodity price shocks are often temporary. Bank research suggests that demand-driven changes in non-oil commodity prices may also be partly transitory. Non-oil commodity prices tend to 'overshoot' in response to changes in G7 demand.⁽¹⁾ Moreover, with Japan and continental Europe only recently showing signs of recovery, *world* demand is not yet growing sufficiently rapidly to close the aggregate 'output gap' to which the relative prices of commodities have in the past tended to respond. But this relatively sanguine view will have to be revised if commodity price increases continue at the rate seen in the second quarter, feeding through into distribution costs, and the prices of imported semi-manufactures and finished goods bought by UK producers.

5.2

Margins

Margins are estimated by comparing the changes in firms' domestic output prices with the changes in the prices they pay for the various factors of production.

Manufacturers' margins are estimated to have grown by 2.5% in the year to May—see Table 5.A. As explained in the box on page 40, large revisions to import price data suggest that manufacturers' margins grew less quickly over the last 18 months than previously thought. The latest data suggest that, following a squeeze in 1993, margins have been growing faster than output prices for the past five months. But both factor and output prices remain subdued.

As a result of data revisions, total import prices are now estimated to have been around 2.7% higher in the fourth quarter of 1993 than previously calculated, but the GDP deflator was 0.7% lower. Given that imports account for

(1) The box on page 14 of the February 1994 *Quarterly Bulletin* describes this in more detail.

Table 5.A
Manufacturing input prices, margins and output prices

Percentage changes on a year earlier

	Unit labour costs	Manufactured imports (a)	Materials and fuels (b)	Bought-in services (c)	Weighted average costs (d)	Margins (b)(e)	Domestic output prices (b)	
1990	7.1	0.3	-1.7	8.2	4.7	10.3	5.8	
1991	7.3	0.1	-2.7	1.1	3.5	9.9	4.8	
1992	1.8	-0.7	-2.0	5.6	1.5	4.7	2.2	
1993	0.9	9.4	3.5	3.8	3.8	-1.8	2.6	
1993	Q1	-0.8	9.2	5.1	4.2	-0.8	2.3	
	Q2	0.5	10.7	4.0	3.3	-2.9	2.4	
	Q3	1.6	12.6	5.2	3.4	-5.0	2.7	
	Q4	2.2	5.5	-0.1	4.4	3.4	1.8	3.0
1994	Q1	2.1	1.2	-0.8	3.6	1.9	5.0	2.6
	Jan.	1.9	2.8	-0.5	3.9	2.4	3.8	2.7
	Feb.	1.7	0.5	-1.0	3.5	1.5	6.0	2.5
	Mar.	2.5	0.5	-1.0	3.3	1.9	5.4	2.6
	Apr.	0.8	1.4	1.0	3.2	1.4	5.0	2.2
May	1.5	2.3	2.3	3.2	2.1	2.5	2.2	

(a) Latest month's trade prices are estimated using data for non-EU trade.

(b) All manufacturing industry excluding food, drink and tobacco.

(c) Proxied by the services price deflator before 1993, and the price of non North Sea output from 1993 onwards. Data for the latest quarter are estimates.

(d) Calculated as a weighted average of the factor prices listed above, using variable weights.

(e) The annual change in $P_t/P_0 - \sum \omega_{it} C_{it}/C_{i0}$, where P_t is the index of output prices in period t , P_0 is the index of output prices in 1989, C_{it} is the price index for factor i in period t and C_{i0} is the price index of factor i in 1989. ω_{i0} is the weight for factor i in the total value of output in 1989 (from the 1989 Input-Output Tables).

approximately 30% of total domestic demand, and assuming that imports and domestic costs pass through equally quickly into final consumer prices, then the upward revision to import prices will effectively be offset by the revision to domestically generated costs (including profit margins), implying broadly unchanged inflationary pressure overall.

The method used to estimate manufacturers' margins has been adapted to estimate retailers' margins. Bank estimates suggest that retailers' margins declined by nearly 10% in the year to the second quarter of 1994—the seventh successive quarter to show a decline. However, this decline was not as severe as in each of the four quarters in 1993. It appears that retailers, although facing higher costs, have not been able to pass these on to their customers fully during the last 21 months. Cost growth has, however, fallen since 1993 Q3, when the annual growth rate of weighted average costs was estimated at 5.0%, the highest rate for over two years; it currently stands at 2.0%. Retailers' output prices, nevertheless, remain weak.

Competitive pressures have been forcing both manufacturers and retailers to absorb increases in costs. Given that margins can be viewed as a firm's behavioural response to cost factors and market conditions, there is a concern that the current squeeze on margins is not sustainable and that firms may attempt to increase their margins in the coming months. Companies, however, continue to report to the Bank's Agents that they see cost reduction and higher output, rather than higher prices, as the main route by which to increase their profitability.

Manufacturers' margins and data revisions

The Bank's latest calculations suggest that manufacturers' margins grew by 6.0% in the year to February. This contrasts with the estimate in the May *Inflation Report* that margins grew by 10.1% over that period. Between 1992 and 1993, margins are now estimated to have fallen by 1.8% instead of rising by 1.8%.

The revisions to the estimates of margins are almost entirely attributable to higher estimated semi-manufactured import prices (see the table). We estimate that these imports account for around 17% of the total value of output and margins around 22%. Every 1% point upward revision to their estimated prices translates—other things being equal—into a 0.8% decline in estimated margins. Data before 1993, however, remain broadly unchanged.

Indices for semi-manufactured imports in January 1994

	Latest data	Before revisions
Price index (1990=100)	106	99
Volume index (1990=100)	122	126
Value (£ billions)	3.1	3.0

The changes occurred because of the new system used by the CSO to deflate import values by volumes. The data released on 12 May were the first to incorporate these revisions. No further major

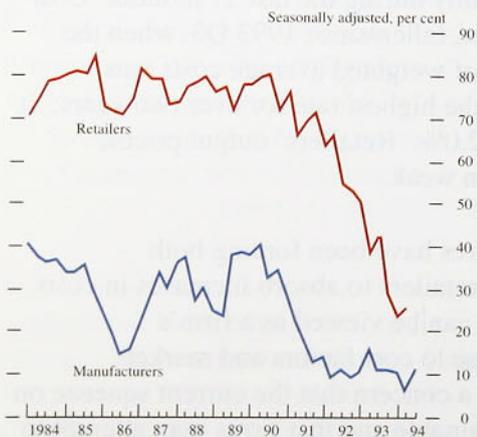
revisions from this source are likely. The table shows that the estimated value of semi-manufactured imports hardly changed, as revisions to prices and volumes have offset each other.

Manufacturers' margins are calculated by first estimating their level in 1989 from the latest available Input-Output Tables and then using the prices of output and inputs to estimate subsequent movements in margins. An assumption has to be made about the proportions of various inputs used. The assumption is that the relative volumes of the various inputs used by manufacturers are fixed.⁽¹⁾ Hence their share of the value of output increases when their relative price increases, leading to a decrease in the estimate of margins.

An alternative assumption would be to assume manufacturers adjust volumes of an input to offset any increases in prices, so keeping values constant (Cobb-Douglas technology). This alternative would have implied much smaller revisions to margins in this case. But this assumption leads to estimates of margins which track poorly the irregular, but detailed, estimates of margins which can be derived from past Input-Output Tables. This issue will be revisited when more up-to-date Input-Output Tables are published.

(1) A box on pages 32–3 of the February 1994 *Inflation Report* explains the method used to estimate margins.

Chart 5.2
Retailers and manufacturers of consumer goods reporting an expected increase in prices^(a)



(a) Balance of firms expecting rises in prices over those expecting falls in the next four months.

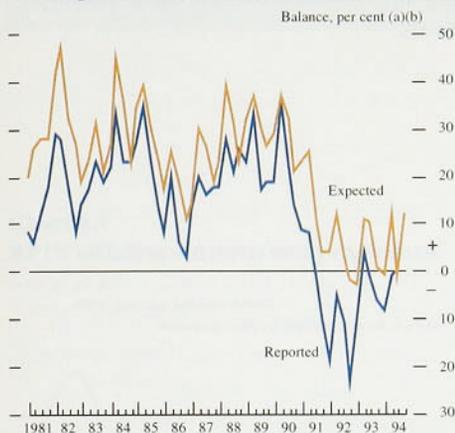
Bank calculations suggest that manufacturers' margins—as a percentage of selling prices—narrowed until August 1993. They then widened until February, since when they have narrowed again. Retailers' margins, as a percentage of selling prices, have probably narrowed since the middle of 1992.

Chart 5.2 shows that the price expectations of consumer goods firms (retailers and manufacturers) remained subdued in the first quarter of this year.⁽¹⁾ The narrowing of the divergence between retailers' and manufacturers' price expectations since the first quarter of 1992 appears consistent with the weakening of retailers' margins.

The latest CBI Quarterly Industrial Trends Survey showed a positive balance of 12% of manufacturing

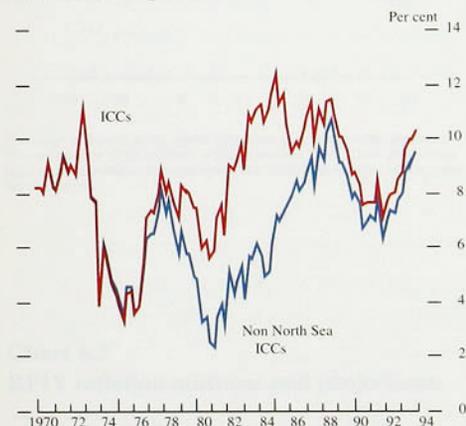
(1) The balances reported in the chart depend not only on the average price increase expected in each sector but also the variances of the price increases. Given that retailers sell a wider range of goods than manufacturers, and are therefore not as susceptible to seasonal or trend variations, it is not surprising that a consistently larger balance of retailers report expected prices to be rising.

Chart 5.3
Manufacturers' reported and expected price developments (CBI Industrial Trends Survey)



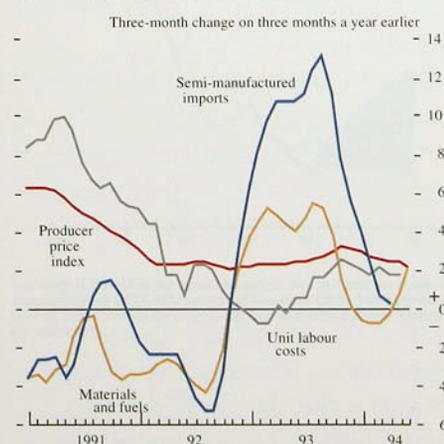
(a) Balance of firms expecting/reporting rises in average prices of domestic orders minus those expecting/reporting falls.
(b) CBI questions refer to next four months (expected) and past four months (reported).

Chart 5.4
Return on capital^(a)



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

Chart 5.5
Manufacturers' output prices and input costs (excluding food, drink, and tobacco)



firms expecting to raise their prices over the next four months, up from -1% in April. Seasonally adjusted, the increase was from -4% to 13%. If realised, such increases are likely to put upward pressure on retail prices. Chart 5.3, however, illustrates that, although reported selling prices tend to track expected prices, manufacturers have consistently been too optimistic about their selling prices.

5.3

Profitability

Firms' price-setting and their profitability are closely related, and have implications for inflation and output. Returns on capital depend on how prices move relative to costs and the extent to which capital is utilised.

The strong growth in profitability (see Chart 5.4) is in line with previous recoveries, although it started from a higher level, reflecting greater cost control, productivity gains and capacity utilisation. In nominal terms, industrial and commercial companies' (ICCs') profits increased by 2.9% in the first quarter of 1994 compared with the previous quarter, representing an annual increase of 16.6%. In comparison with their trough in the first quarter of 1992, ICCs' total profits are now around a third higher.

Chart 5.5 shows changes in manufacturers' output prices and the costs of the manufacturing sector.

Manufacturers' output prices (excluding food, beverages, tobacco and petroleum) rose by 0.4% over the quarter, with the result that the 12-month increase was 2.0% in June—the lowest rate since November 1967. Input prices, on the other hand, rose by 1.7% over the second quarter. Commodity and other material price increases have fed through to input prices, although future purchasing and contractual arrangements will have reduced their immediate impact. The latest survey of purchasing managers shows a large rise in the cost of their raw material purchases in both May and June.

5.4

Summary

Commodity prices and firms' price expectations both give rise to risks to the inflation outlook. Increases in producer output prices remain constrained by market and competitive conditions, despite the rise in input prices. The increase in input prices, however, raises the concern that firms may seek price increases over the coming months, as reported in the CBI Quarterly Survey. Manufacturers' margins as a proportion of output prices

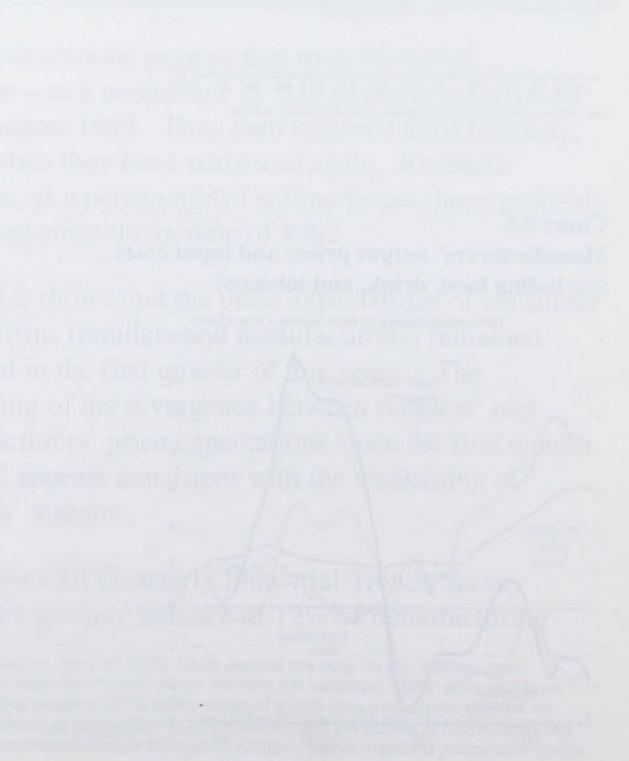
are around their average of the last five years, so there is scope for change in either direction. Retailers' margins as a proportion of output prices, however, are probably at historically low levels.

Stability

From 1990, the inflation rate has been relatively stable, fluctuating around 2.5%. This is a significant achievement, given the volatility of inflation in the early 1980s. The stability of inflation is a reflection of the success of the Monetary Policy Committee in maintaining the inflation target. The Committee has used a variety of instruments, including the base rate, to achieve this. The stability of inflation is also a reflection of the success of the government in maintaining a low level of public sector borrowing. The stability of inflation is a reflection of the success of the government in maintaining a low level of public sector borrowing.

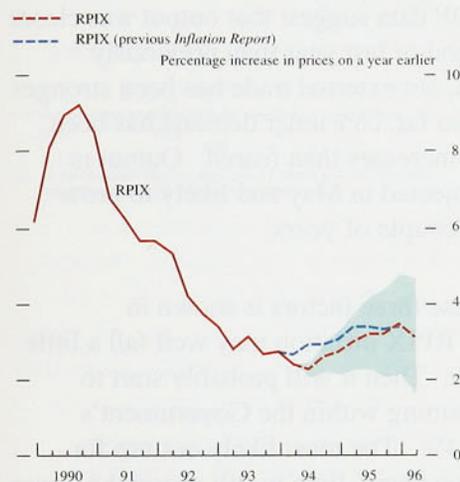
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Manufacturers' margins as a proportion of output prices are reported in the CBI Quarterly Survey. The increase in input prices, however, since the coming of the new millennium, despite the fact that prices of raw materials have remained low, has led to a rise in the inflation outlook. The increase in input prices, however, since the coming of the new millennium, despite the fact that prices of raw materials have remained low, has led to a rise in the inflation outlook.



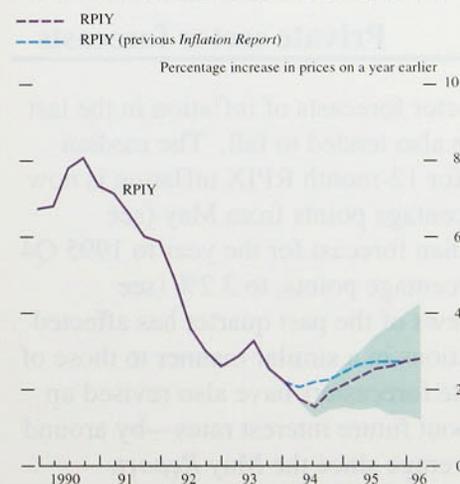
Prospects for inflation

Chart 6.1
RPIX inflation outturns and projections



The range is defined as the central projection plus or minus the absolute average error on RPIX inflation projections since 1985. These projections have all been based on the assumption that short-term nominal interest rates are unchanged.

Chart 6.2
RPIY inflation outturns and projections



The range is defined as the central projection plus or minus the absolute average error on RPIY inflation projections since 1985. These projections have all been based on the assumption that short-term nominal interest rates are unchanged.

The Bank's medium-term projection for inflation assumes that official short-term interest rates remain at 5¼%—not because this is necessarily the most likely outcome, but because it provides an essential benchmark for policy judgments. Given this interest rate assumption and projections for overseas interest rates derived from futures markets, the exchange rate is assumed to ensure that uncovered interest parity is maintained.

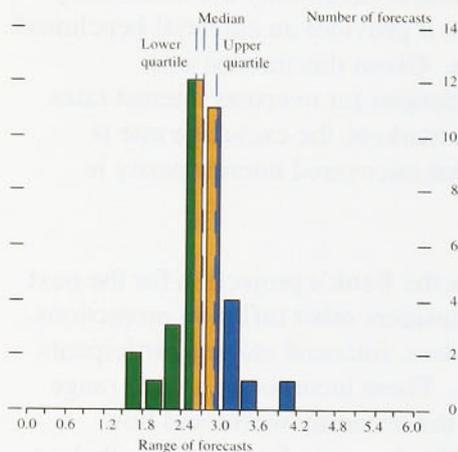
This section presents the Bank's projection for the next two years. It also considers other inflation projections, by economic forecasters, financial market participants and business people. These incorporate a wide range of views about how the economy works and how monetary policy might change in future. Nevertheless, taken together, they show whether others see the commitment to the inflation target of 1%–4% as credible.

6.1 The Bank's medium-term projection

Chart 6.1 shows the Bank's medium-term projection for RPIX inflation. Compared with the projection in the *May Report*, the most likely outcome is that inflation will be lower until the end of 1995. It will then peak above 3% in 1996 Q1, before falling back again as announced indirect tax increases in 1995 Q2 drop out of the 12-month comparison. The projection for RPIY inflation has also been revised but underlying inflation is expected to remain below 3% (Chart 6.2). The price level expected at the beginning of 1996 is now lower than projected in May.

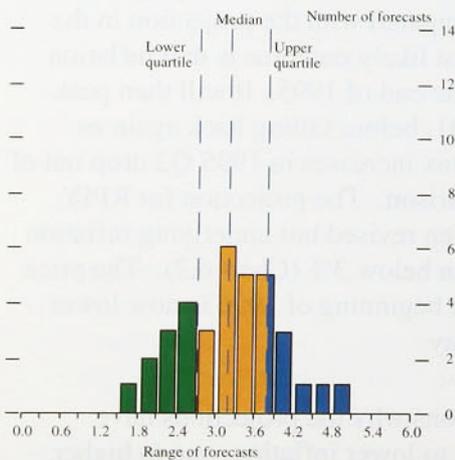
There are three reasons why the projections have changed: two point to lower inflation, one to higher. First, inflation has been lower than expected over the past three months. The squeeze on profit margins, which started in the fourth quarter of 1993 in food retailing, has spread to other parts of retailing, and this is likely to continue for a while. Second, the disinflationary pressure generated by a given degree of slack in the economy—measured by indicators like the output gap, capacity utilisation rates, unemployment and inactivity rates—has been greater than anticipated.

Chart 6.3
Distribution of RPIX inflation forecasts for 1994 Q4



Source: Forecasts of 35 private sector organisations as of June 1994.

Chart 6.4
Distribution of RPIX inflation forecasts for 1995 Q4



Source: Forecasts of 35 private sector organisations as of June 1994.

The margins squeeze is expected to come to an end by the end of the year, but retail margins are not then expected to be rebuilt. By itself, this is likely to reduce the annual inflation rate below previous estimates until the end of 1995. Because the new projection assumes greater disinflationary pressures, the annual rate is likely to be lower still.

The third reason for the revision in the projections operates the other way, in the direction of somewhat faster inflation. GDP data suggest that output was closer to potential by the end of last year than previously thought. Since then, net external trade has been stronger than expected and, so far, consumer demand has been less affected by tax increases than feared. Output is higher now than projected in May and likely to grow faster over the next couple of years.

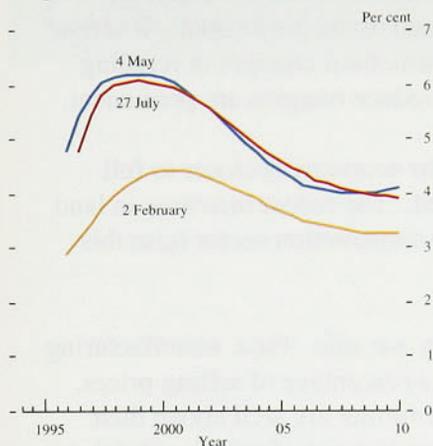
The net effect of these three factors is shown in Charts 6.1 and 6.2. RPIX inflation may well fall a little over the next quarter. Then it will probably start to increase, while remaining within the Government's target range of 1%–4%. The most likely outcome for RPIX inflation in two years' time is still above the lower half of the range—the target for the end of this Parliament—but the projection for RPIY inflation shows that the target is within reach. The shaded area in the charts—the average forecasting error in the past—demonstrates how imprecise these projections are. It should be stressed that they are based on the assumption of unchanged official interest rates.

6.2 Private sector forecasts

Published private sector forecasts of inflation in the last quarter of 1994 have also tended to fall. The median forecast (out of 35) for 12-month RPIX inflation is now 2.7%, down 0.4 percentage points from May (see Chart 6.3). The median forecast for the year to 1995 Q4 has fallen by 0.2 percentage points, to 3.2% (see Chart 6.4). So the news of the past quarter has affected private sector projections in a similar manner to those of the Bank. But private forecasters have also revised up their assumptions about future interest rates—by around 30 basis points on average since the *May Report*.

Inflation expectations derived from yield curves in the gilts market were similar at the end of July to those reported in May (see Chart 6.5). The estimate of market expectations is less reliable at the short end, where the graph still indicates higher inflation expectations than

Chart 6.5
Implied forward inflation rates^(a)



(a) In past *Inflation Reports*, the implied forward inflation rate curve was referred to as the inflation term structure.

the median of explicit forecasts for 1995 Q4. The profiles of expected future inflation are more useful as a guide to the long-term credibility of monetary policy. Credibility appears to have changed little since May.

Inflation expectations in the Barclays Basix Survey of the general public have also fallen over the past quarter. This contrasts with the CBI Industrial Trends Survey, which shows an increase in the balance of firms expecting to increase their prices in the next four months (see Section 5). However, in common with the Gallup survey of employees (see Section 4), the average expectation among the general public is for inflation to be 4.0% a year ahead and 4.6% a year later. The July survey of fund managers (conducted by Smith New Court in association with Gallup) revealed that their inflation expectations have stabilised, at 3.2% for end-1994 and 3.9% for end-1995.

6.3

The main risks

In the *May Report*, three main inflation risks were identified: the growth of the monetary aggregates; the growth of nominal earnings; and the high level of inflation expectations in the financial markets. The first remains a risk. M0 growth has picked up since May and is well above its monitoring range, although it is expected to slow down this autumn and is already showing some signs of falling. M4 growth, however, gives little cause for concern. As for earnings growth, it was no higher than projected in May, but rising taxes, falling unemployment and deteriorating terms of trade could increase the upward pressure on pay. The third risk—financial markets' inflation expectations—has hardly changed. These expectations are volatile, but they still suggest that investors are not yet convinced that price stability can be achieved and maintained in the long term.

Three more risks now need to be added to the list. One is that commodity prices will continue to rise rapidly, pushing up producers' output prices by more than assumed in the projection. Producers' input prices have already been affected (see Section 5). Because world demand is still sluggish, big increases in commodity prices are unlikely to continue for long enough to have a serious impact on domestic inflation. But further supply-side shocks would alter the outlook.

The second risk is that margins, particularly those of retailers, may rebound if firms decide that this spring's

tax increases will not lead to a significant slowdown in demand. This would happen if margins are more procyclical than assumed in the projections. It is not clear yet whether the structural changes in retailing which have helped to reduce margins are permanent.

The third risk is that the economy is closer to full potential than projected. The recent increases in land prices and costs in the construction sector raise this possibility.

The risks are not all on one side. First, manufacturing and retail margins, as a percentage of selling prices, could fall further. The former are well above their historical trough. At some point, if margins shrink too much, the return on capital will be low enough to drive firms out of these industries. But profitability is probably well above this point at the moment. Second, the unexpectedly low inflation in recent months may bring down the inflation expectations of price and wage-setters more rapidly, leading to lower nominal prices and wages than projected. Third, some labour market indicators suggest that the headline unemployment figures may be exaggerating the speed at which the labour market is tightening and thus exaggerating the upward pressure on earnings.

In the short term, the prospect for inflation remains encouraging. Inflation was unexpectedly low in the second quarter. The Government's measure of underlying inflation—which includes the impact of higher indirect taxes—remained within the lower half of the 1%–4% target range. The Bank's measure—which excludes indirect taxes—fell to just over 1½%. Other measures of 'core' inflation have either fallen or stayed low. And underlying inflation may well fall a little further over the next quarter. In contrast, headline RPI inflation, distorted by the inclusion of mortgage interest payments, has been rising from its low in the first half of last year.

The continuing reduction in inflation reflects a squeeze in retail margins which has now spread well beyond the food sector. Part of the reduction in margins may stem from a structural change in competition, but a significant cause is the continuing disinflationary effect of the recent recession. Since then, the recovery in output has clearly reduced the output gap, which will moderate these disinflationary pressures. At some point, the downward pressure on inflation resulting from excess capacity in goods and labour markets will be offset by the upward pressure resulting from growth above trend. Provided output growth (relative to the trend) is not allowed to become too rapid, the increase in inflation can be held in check.

At present, non-oil output is rising at an annual rate of roughly 3% or so, and nominal GDP is growing at around 6%. Broad money is also rising at around the middle of its medium-term monitoring range of 3%–9%. These aggregate figures are consistent with continued recovery and low inflation. And the three risks to the inflation outlook highlighted in the *May Report*—monetary growth, increases in earnings and a rise in inflation expectations—have become no worse. Indeed, the first has receded a little with the first signs of a deceleration in narrow money.

But these data do not reveal the full picture. In some sectors, signs of possible inflationary pressures are beginning to appear. Despite the patchy upturn in the housing market, which has been weaker over the past

quarter, land prices have for some time been rising sharply from a low level, and costs and prices in construction are rising. There are tentative reports of recruitment difficulties in some sectors—not confined to the highly skilled—and manufacturing input prices have risen by 3% in three months. Capacity utilisation, as measured by the CBI, is above its historical average. The number of firms reporting an intention to raise prices has increased significantly over the past three months and has remained high for the second successive month. By itself, no single indicator is particularly significant. Taken together, they suggest the need to be alert to future inflationary pressures.

The Bank's projection for inflation in the short run has fallen since the *May Report*. But the outlook for two years hence is virtually unchanged. Assuming unchanged official interest rates, underlying inflation is expected to rise into the top half of the target range.

The stance of monetary policy must be set on the basis of a judgment of where inflation will be in some two years or so. This is especially important at turning-points in official interest rates. Although it is uncomfortable to base policy on a forecast that is subject to a large margin of error, the lags between changes in interest rates and subsequent changes in inflation mean that there is no simple (or for that matter complicated) alternative to forming a judgment about the future path of inflation conditional upon all current information. The pressures for higher inflation in the future may be building up even as the published inflation rate for the past continues to fall. It is possible, though not yet certain, that the United Kingdom is entering this phase. The current picture of output growing above trend and inflation continuing to fall remains favourable. But if official interest rates were to remain unchanged over the next two years, then it is probable that inflation would gradually rise to a level above the mid-point of the target range.

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