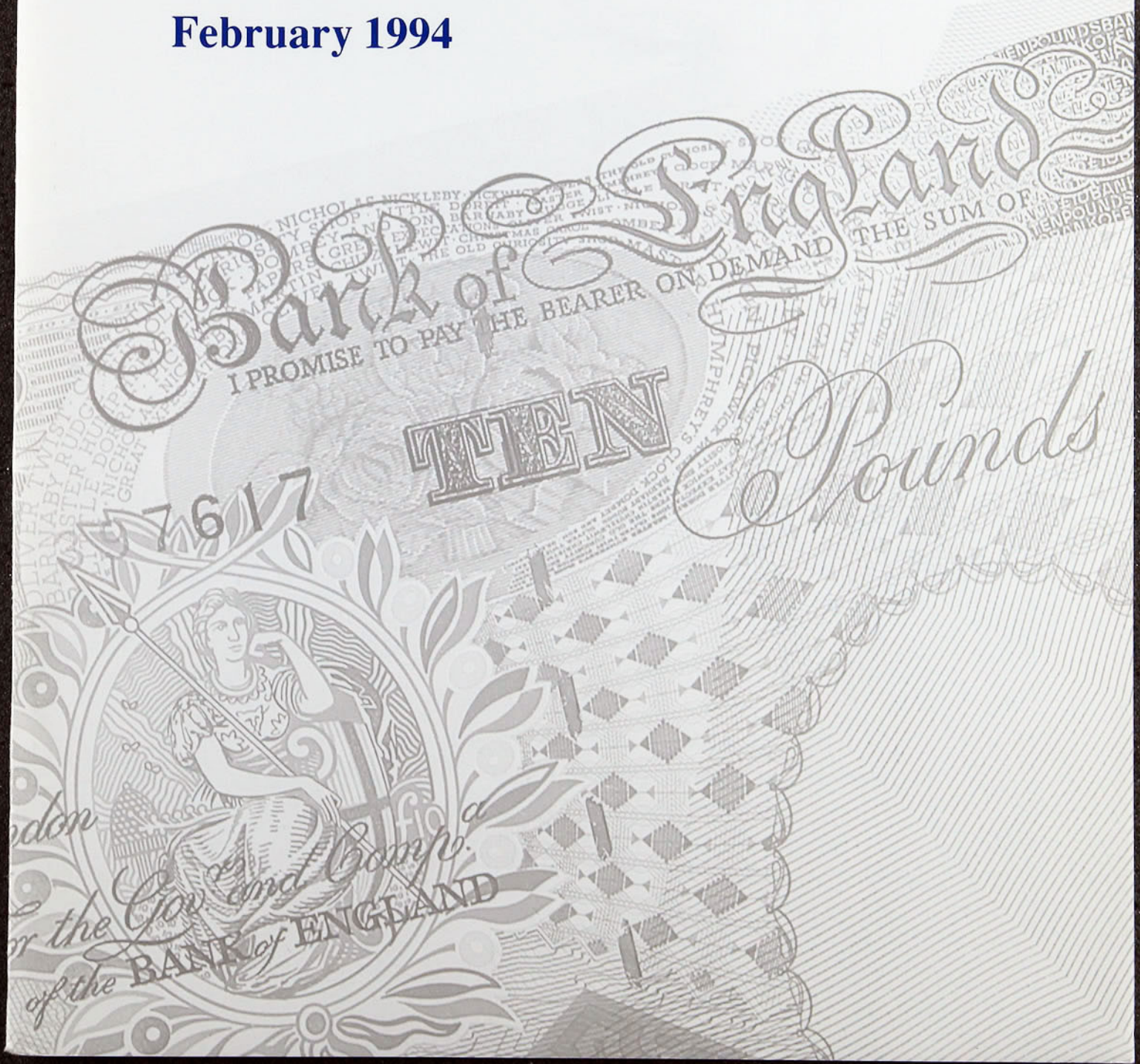
Bank of England

Inflation Report

February 1994



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Printed by Park Communications Ltd
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ISBN 1 85730 062 9

Summary

RPIY inflation, which removes mortgage interest payments and the impact of higher excise duties, has fallen by more than a full percentage point since September. Narrow money, M0, has continued to grow erratically, at an annual rate above its 0%–4% monitoring range. Broad money growth increased to an annual rate of 5.4% in December. These data are consistent with a continued recovery and further balance sheet adjustment by indebted firms. Non-oil GDP increased by 2.1% over the year to the fourth quarter. The output gap is likely to narrow as demand increases. Investment and stockbuilding are likely to contribute more to growth as the recovery continues. As yet, there has been little sign of upward pressure on nominal earnings growth. Import costs are unlikely to generate any inflationary pressure. Combined with continued low growth of unit labour costs, this means that firms' profits and margins can continue to increase without necessarily pushing up inflation.

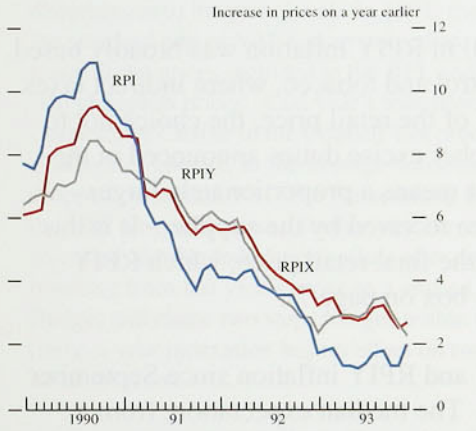
Taking all these factors together, the Bank's new central projection is that RPIX inflation will rise slightly during 1994 and remain steady during 1995, ending the year at over 3%. RPIY inflation is projected to stabilise at around 2%–3% from the middle of 1994. In the Bank's view, the most likely prospect over the next two years is that output will grow at just above its trend rate and underlying inflation will remain low. Expectations have yet to adjust to the sharp fall in inflation which has occurred over the past two years. In these circumstances, the risks to the central projection for inflation are asymmetric—a rise in underlying inflation seems more likely than a further fall. The speed of progress to higher levels of output and employment depends on the extent to which everyone involved in decisions on saving and investment, and on wages and prices, are convinced that inflation will indeed be kept down so that they can plan in terms of real—rather than nominal—rates of return and rewards.

Recent developments in inflation 1

1.1 Retail prices

The Government's target measure for inflation—the twelve-month change in the retail prices index excluding mortgage interest payments (RPIX)—has fallen sharply since the last *Inflation Report*. Three months ago, it had risen from 2.8% in June to 3.3% in September. But it fell in both October and November, to 2.5%, before rising slightly to 2.7% in December following the increases in excise duties (Chart 1.1).

Chart 1.1
Inflation



RPIY=Bank estimate based on estimates of the VAT and excise-duty content of RPI components.

Over the next few years, a series of increases in indirect taxes means that RPIX inflation will overstate underlying inflation in the economy. So it is important to examine changes in a price index—RPIY—which excludes not only mortgage interest payments but also local authority and indirect taxes (see the box on page 7). At the time of the November *Report,* RPIY inflation was a little higher than the RPIX measure (see Chart 1.1). But it has fallen sharply since and, at 2.3%, is now below the RPIX rate.

The headline rate of inflation, the third measure shown in Chart 1.1, reached a low point of 1.2% in June. Since then it has risen, reaching 1.9% in December. The headline rate has been below RPIX inflation because of falling mortgage interest payments, but the gap has narrowed since the November *Report*. For most of 1993, mortgage interest payments were at least 20% lower than in 1992, but in December they were only 11% lower than a year earlier; the equivalent comparison for January will be smaller still. As the gap between these two rates closes, the headline measure is likely to rise further.

Other measurement difficulties are affecting the inflation data. In April 1993, the transition from the Community Charge to the Council Tax reduced average household payments by about 9%. This will depress both the headline and RPIX measures until April 1994. Last year also brought the transition to the unified Autumn Statement and Budget, so excise duties were raised twice, affecting the RPI in April

Table 1.A
Contributions to RPIY inflation[a]

Percentage points

	Goods	Of which:			Services	RPIY[b]
		Food	Petrol and oil	Tobacco		
Dec. 1992	0.91	0.19	0.13	0.10	1.96	2.9
Mar. 1993	0.88	0.26	0.17	0.13	1.90	2.8
June 1993	1.10	0.33	0.16	0.12	1.72	2.8
Sept. 1993	1.69	0.56	0.20	0.21	1.78	3.5
Oct. 1993	1.27	0.38	0.03	0.21	1.69	3.0
Nov. 1993	0.88	0.27	-0.07	0.18	1.68	2.6
Dec. 1993	0.56	0.14	-0.18	—	1.71	2.3

(a) Each contribution is calculated as the weight of the component in the RPI times the percentage increase in its price.
(b) Percentage changes on a year earlier.

Chart 1.2
Distribution of outside forecasts for RPIX inflation in 1993 Q4 before the November 1993 *Inflation Report*

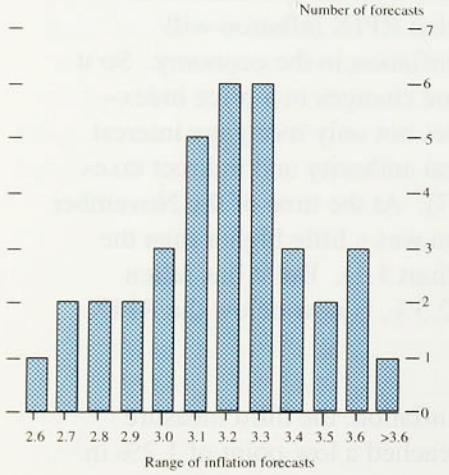
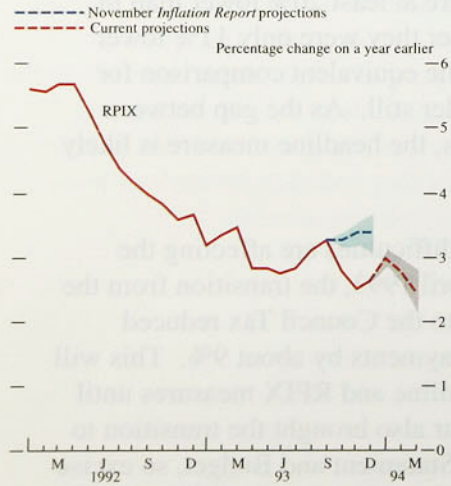


Chart 1.3
RPIX inflation projections and outturns



and December. This is now adding to the headline and RPIX measures—but, once again, only until April. Other fiscal changes due in April include the broadening of the VAT base and the reduction in the rate for mortgage interest relief. Both changes will raise headline inflation over the following twelve months.

Roughly one third of the recent fall in RPIY inflation was because of food prices (Table 1.A). Food price inflation stood at 3% at the time of the last *Report*. But intensified competition, led by the major supermarkets, left food prices in December less than 1% above their December 1992 level. The box on page 9 concludes that recent reductions are unlikely to be reversed, at least in the short run, so there has probably been a one-off adjustment to margins and prices.

The remaining fall in RPIY inflation was broadly based. For goods like petrol and tobacco, where indirect taxes account for much of the retail price, the choice not to pass on all the higher excise duties announced in the November Budget means a proportionately larger decline in the price received by the supplier. It is this price, rather than the final retail price, which RPIY measures (see the box on page 7).

The falls in RPIX and RPIY inflation since September were unexpected. The median expectation, from a sample of 36 independent forecasts available at the time of the last *Inflation Report*, was that RPIX inflation in the final three months of 1993 would average 3.2%. This was well above the outturn of 2.7%. Chart 1.2 shows that more than two thirds of these forecasters expected RPIX inflation to be between 3% and 3½%. But even this comparison understates the scale of recent prediction errors. The majority of the forecasts at the lower end of the scale pre-dated the publication of the September RPI figures. Many of these forecasts were subsequently raised.

Food prices were an important reason why the Bank's short-run inflation projections were higher than the outturn. As Chart 1.3 shows, the prediction error in the last *Report* was almost a full percentage point for November. Short-run projections of this kind are not a reliable guide to what will actually happen over a period of a few months. The estimates shown in Chart 1.3 derive purely from statistical extrapolations of recent price trends together with some information about pre-announced price changes. As a rule of thumb, they assume that prices in the immediate future will behave

Removing indirect taxes from the RPI

Why invent another measure?

The Government's target range for inflation is defined in terms of the RPI excluding mortgage interest payments (RPIX). With such a specific objective, the performance of policy-makers is easy to monitor, since RPIX is published monthly along with the headline rate. So why construct a further measure?

The main purpose is to distinguish between those changes in inflation that are the result of either a temporary movement or a step adjustment to the price level, and those that reflect a change to the underlying inflation rate.

Government itself is a major source of one-off disturbances to the price level. In 1991, the increase in the standard rate of VAT had an immediate effect on many of the prices included in the RPI, and resulted in a step change in prices. Last year's transition from the Community Charge to the Council Tax produced a similar step change, as the average household bill dropped by around 9%. The forthcoming broadening of the VAT base will cause a further step increase. The so-called 'double indexation' effect of excise duties resulting from last year's move to a unified Autumn Budget will cause two step changes within the year (once-a-year indexation has no effect on twelve-month inflation rates).

These step changes may affect measures of inflation in the short run in a way which runs in the opposite direction to their medium-term effects. So removing the transitory, direct price effects of fiscal and monetary policy should provide a guide to underlying inflationary pressure.

What does RPIY measure?

As the November *Inflation Report* described, RPIY measures inflation excluding all local authority and indirect taxes (VAT and duties), in addition to mortgage interest payments.

About 60% of the RPI basket currently attracts VAT. Excise duties are also levied on items such as alcohol, tobacco and petrol—which represent around 15% of the basket; together with VAT, these duties can account for more than half of the retail price.

Because RPIY removes that part of the final price which the retailer passes on to the government in the form of tax and duties, it can be thought of as an index of the prices faced by final suppliers. These prices sometimes move quite differently from those faced by consumers. When indirect taxes are raised, for example, retailers may decide not to pass on the whole increase. Final consumers may then face a smaller-than-expected price rise, while final suppliers accept a price fall.

How is RPIY calculated?

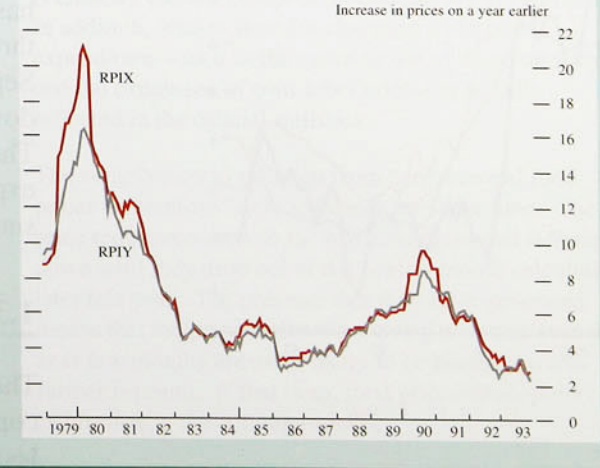
Although RPIY is a simple concept, calculating it is not straightforward. Identifying and removing excise duties and VAT from the component price series should, strictly, be done at a level of disaggregation which reveals the range of variation in duties and VAT status. RPIY is calculated using a more aggregated approach, but the same basic procedures, for identifying and removing taxes from component prices and for reweighting the adjusted series within the new index, are applied.

Conventionally, duties are fixed in cash terms. This means that the published price indices must first be expressed as cash prices, by applying a base-period price. The cash value of duties can then be deducted, and a new price index computed. The effect of the calculation can be striking. In January 1990, a litre of 4-star petrol sold at around 41p, of which 26p was duty and VAT. Four years later, the price had risen to about 56p—a 36% increase. But if indirect taxes are excluded, the supply price rose by only 10%.

Reweighting the adjusted price series is a key part of calculating RPIY. The petrol example shows that removing the indirect tax component can have a big effect on the cash price. In calculating RPIY, we have adjusted the weights of the component series to reflect these changed cash values. Items such as petrol have a much-reduced weight, while for items such as food—where only a small proportion is subject to VAT—the new weights are larger than in the standard RPI basket.

The chart compares RPIX and RPIY inflation since 1979.

Inflation



as they have done in the recent past, with some allowance for the normal seasonal pattern. When inflation is changing rapidly, this assumption is unrealistic. But the value of such projections does not depend primarily on their predictive power. Short-run statistical projections provide a 'benchmark' against which to assess the 'news' contained in subsequent inflation figures. At the moment, the comparison suggests that downward pressure on inflation remains somewhat stronger than was apparent three months ago. In part, this reflects new pressures in food retailing, but the earlier assessment may also have exaggerated the scale of post-sale price rises in the late summer.

Table 1.B shows how short-run measures of inflation—the change in prices over three months—have varied during the past year. These can give an early indication of a trend change in inflation, but they are sensitive to changes in seasonal patterns and to temporary disturbances. After falling sharply in the early summer, they appeared to indicate some rebuilding of inflationary pressure following the summer sales, but this has once more been reversed. Over the past two months, the prices of goods have been falling.

Table 1.B
Short-run measures of inflation

Percentage changes (a)

	RPI	RPIX	RPIY	Goods	Services
Dec. 1992	1.0	4.0	3.8	3.1	5.1
Mar. 1993	0.9	3.8	3.6	2.5	5.6
June 1993	1.2	1.0	2.5	2.2	2.8
Sept. 1993	3.9	4.1	3.9	3.0	4.8
Oct. 1993	2.4	2.9	2.1	0.7	4.7
Nov. 1993	1.2	1.5	0.2	-1.9	4.1
Dec. 1993	1.6	1.8	-0.7	-3.3	4.2

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

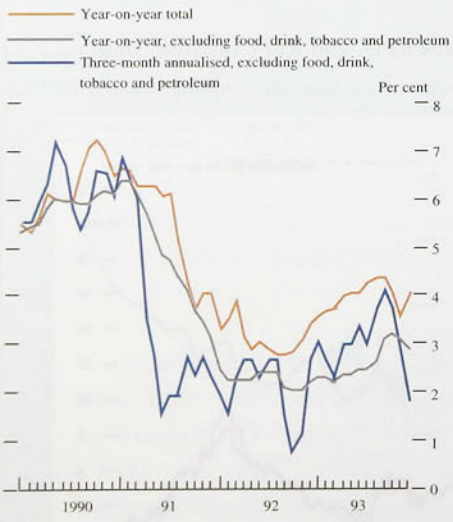
The natural logarithms of the price series were seasonally adjusted using a Kalman filter to decompose the series into trend, cyclical, irregular and seasonal components.

1.2 Output prices

The twelve-month change in output prices rose to 4.0% in December, mainly because of higher excise duties announced in the November Budget (Chart 1.4). In the previous month, it had fallen sharply, to 3.6%, as the increases in petrol prices a year earlier dropped out of the calculation.

If the more volatile prices of two sectors—food, drink and tobacco, and petroleum refining—are excluded, it is clear that the deceleration in manufacturers' inflation has been more marked in recent months. The three-month inflation rate has fallen sharply since September and the twelve-month rate has started to turn down. This trend is supported by recent CBI surveys. The seasonally adjusted balance of respondents who expected to raise prices within four months has fallen since the spring of last year.

Chart 1.4
Producer output price inflation



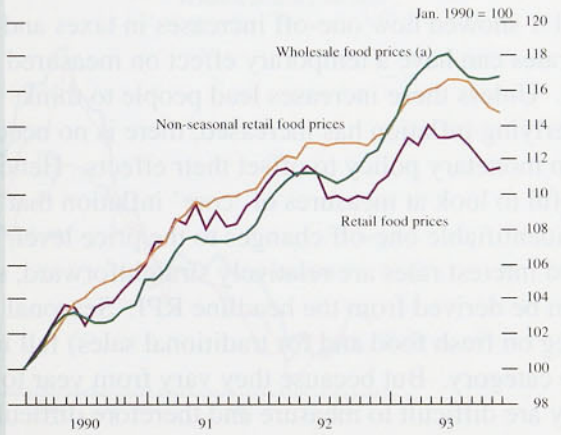
1.3 Domestic deflators

The factor-cost GDP deflator gives the most comprehensive view of inflationary pressure, but it is less up-to-date than other indicators, and subsequent

Food prices and the RPI

The recent fall in RPIY inflation has been partly brought about by reductions in food prices. Food price inflation—as measured by the twelve-month change in the food component of the RPI—has fallen from 3.0% at the time of the last *Report* to less than 1% in December. Movements of this size are not unusual—food price inflation rose by nearly three percentage points between January and July last year. But they normally reflect movements in the prices of a comparatively small number of items, such as fresh produce, whose supply is seasonal. As Chart A shows, most of the fall since September has been the result of price reductions in the larger non-seasonal food category, which began last summer and intensified in the autumn.

Chart A
Food prices



(a) Price of output from the food manufacturing sector.

Why have food prices fallen?

Non-seasonal food price reductions of this size and duration are unusual. In recent years, non-seasonal prices have usually been reviewed in the winter and spring, and then held broadly stable through the summer and autumn. The increases in the first half of last year fitted this pattern. Because many agricultural support prices were raised sharply around the start of 1993 following currency re-alignments, however, it seemed possible that retail food prices would rise faster. Why did this not happen?

Competition in the food-retailing industry has intensified sharply with the onset of important structural changes. The market leaders have continued to invest in new superstores, offering a wide product range away from traditional town centre sites. At the same time, a new group of discount food stores—many with European or US parent companies—have entered the market, offering a limited range of high volume, basic food products on low margins. The price promotions started last autumn by the leading supermarkets made large price reductions on a similar narrow range of own-label products in a direct response to this move.

What does this mean for inflation?

The competition for market share means that the lower prices are likely to continue. As yet, discount stores occupy a relatively small share of the retail food market. But they are expanding, and are being joined by similar ventures parented by existing medium-sized supermarket chains. The pressures on the market leaders are reflected in the performance over the past year of their shares, compared with the FT-SE-A All-Share index (see Chart B).

Chart B
Share indices relative to the FT-SE-A All-Share index

(a) In measuring how the individual share prices performed relative to the FT-SE-A All-Share index, allowance has been made for the normal relationship between the return on each individual share and the return on the index, as measured by each share's β, estimates of which were provided by the London Business School.

Because the supermarket promotions have concentrated on own-label products, their impact has probably not yet been fully reflected in the inflation measures. Producers of branded products are reconsidering their price structure in the light of the increased competition, and it is unlikely that the competitive changes are yet complete. In addition, it takes time for changing patterns of expenditure—such as the growing use of discount stores and the expansion of own-label sales—to be fully reflected in the official statistics.

The contribution to inflation from non-seasonal food prices is therefore likely to be low for some time. The price reductions seen so far will hold measured inflation down until they drop out of the twelve-month calculation later this year. The pressure that they have generated means that the price reviews occurring now and over the next few months are more likely to be biased towards further restraint. If that is so, food price inflation may fall further in the coming months.

Table 1.C
Domestic deflators—expenditure components

Percentage changes on a year earlier

	Consumption	Investment	Government	Exports	Imports	GDP
1991 Q1	7.2	2.4	9.2	0.9	-2.8	8.1
Q2	7.0	-0.1	7.4	-0.3	-1.7	6.4
Q3	6.7	-2.3	6.3	1.9	4.2	3.8
Q4	6.3	-2.3	5.4	1.8	2.0	5.1
1992 Q1	5.9	-3.8	6.7	1.8	1.3	4.2
Q2	5.5	-3.6	6.1	1.2	-1.2	5.3
Q3	4.7	-2.7	5.9	-0.5	-3.4	4.9
Q4	4.2	-2.4	6.4	3.5	4.2	3.5
1993 Q1	4.4	-0.7	5.7	10.0	8.9	3.9
Q2	3.6	—	3.8	8.7	9.5	2.8
Q3	3.4	0.7	2.7	10.9	9.7	3.0
Seasonally adjusted quarterly growth rates—1993						
Q3 on Q2	-0.1	0.2	-0.1	-1.4	-0.2	0.7
Q4 on Q3	0.3	0.1	—	1.5	0.4	0.7

revisions are greater. It rose marginally between the second and third quarters of last year. Three months ago, the rate for the second quarter was put at 1.5%; this estimate has been revised to 2.8%. The rate has risen to 3.0% in the third quarter (which is consistent with the timing of the temporary pick-up in retail price inflation described above).

Table 1.C shows how the component deflators have contributed to this change. The consumers' expenditure deflator rose only slightly last year, causing the twelve-month growth rates to fall in successive quarters. By contrast, the investment deflator has turned up, having fallen throughout 1992.

1.4 Core inflation

Section 1.1 showed how one-off increases in taxes and interest rates can have a temporary effect on measured inflation. Unless these increases lead people to think that underlying inflation has increased, there is no need to tighten monetary policy to offset their effects. Hence it is helpful to look at measures of 'core' inflation that exclude identifiable one-off changes to the price level. Taxes and interest rates are relatively straightforward, so RPIY can be derived from the headline RPI. Seasonal effects (eg on fresh food and for traditional sales) fall in the same category. But because they vary from year to year, they are difficult to measure and therefore difficult to separate from the underlying rate. An increase in competition in the retail sector is also likely to be a one-off change, but that too is hard to measure.

Just as one-off increases in the price level as a result of tax changes do not require a tighter monetary policy (as long as they do not generate knock-on effects), nor in principle do one-off relative price changes. But relative prices vary all the time, so how can they be distinguished from changes in underlying inflation? One approach (described in detail in the May 1993 *Report*) is to use all the component RPI price series to compute a median twelve-month change for each period, thus giving no weight to extreme movements in relative prices. A variant of this approach is to exclude the biggest price changes and calculate the average of the remaining changes. The result is called a 'trimmed mean'. Median and trimmed-mean inflation track RPIY inflation quite closely in the longer run. Both were well below RPIX and RPIY inflation at the time of the last *Report*. Since then, RPIX and RPIY rates have fallen

Chart 1.5
Alternative measures of 'core' inflation

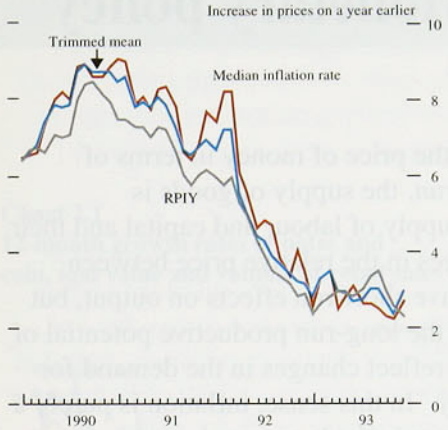
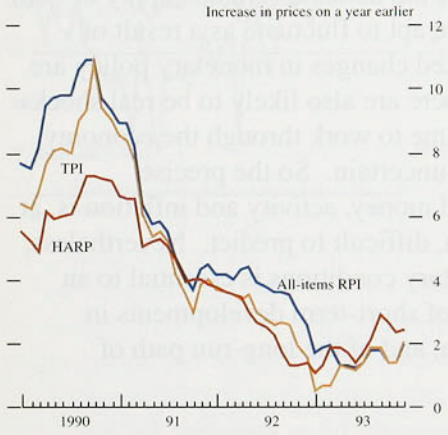


Chart 1.6
RPI, TPI and HARP inflation rates



sharply, but median and trimmed-mean inflation remain close to their September rates (see Chart 1.5).

The treatment of housing costs in the RPI has long been debated. The housing-adjusted RPI (HARP index) replaces the mortgage interest component of the headline rate with an estimate of the user cost of housing. The Halifax house price index, which appears in the user-cost measure, has been rising gently since the first half of last year. By January, it showed house prices were 1.2% up on a year earlier, but mortgage interest payments in December were 11% lower. This accounts for the difference between HARP inflation and the headline rate. The Tax and Prices index (TPI), which adjusts the headline RPI to compensate for changes in direct tax, continues to track the RPI. The two should remain close together until April, when the TPI will start to move above the headline measure, as the direct tax changes announced last year begin to take effect.

1.5 Summary

RPIY inflation, which removes mortgage interest payments and the impact of higher excise duties, has fallen by more than a full percentage point since September. About one third of this fall is because of stronger price competition among the major supermarkets. This has brought about a sharp reduction in prices which is unlikely to be quickly reversed. The rest of the fall has been broadly based.

2 Monetary policy

Inflation is a fall in the price of money in terms of goods. In the *long run,* the supply of goods is determined by the supply of labour and capital and their productivity. Changes in the relative price between money and goods have short-run effects on output, but do not directly alter the long-run productive potential of the economy. They reflect changes in the demand for and supply of money. In this sense, inflation is purely a monetary phenomenon in the long run.

But, in the *short run*, the demand for and supply of both money and goods are apt to fluctuate as a result of shocks. Unanticipated changes in monetary policy are one example; but there are also likely to be real shocks. These shocks take time to work through the economy, but just how long is uncertain. So the precise relationship between money, activity and inflation is, at least in the short run, difficult to predict. Nevertheless, an analysis of monetary conditions is essential to an understanding both of short-term developments in activity and inflation, and of the long-run path of inflation.

The role of money in inflation can be viewed in terms of either monetary quantities, broad and narrow money, credit *etc*; or monetary prices, interest rates on various assets. In principle, the two should provide equivalent information. But, in the short run, one is often more informative than the other, depending on the type of shock disturbing the inflationary process. It is therefore necessary to monitor both financial quantities and prices.

2.1 Money and credit aggregates

There is, at least conceptually, some underlying 'shadow' monetary aggregate which corresponds to the amount of inflationary pressure in the economy. Since this is likely to be unobservable, the published money and credit aggregates are best seen as providing valuable but partial information. They can be used in conjunction with information from the real economy to assess the development of inflationary pressures.

Chart 2.1
12-month growth rates of notes and coin, and value and volume of retail sales

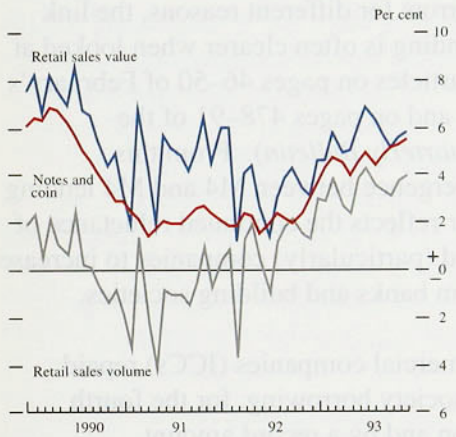
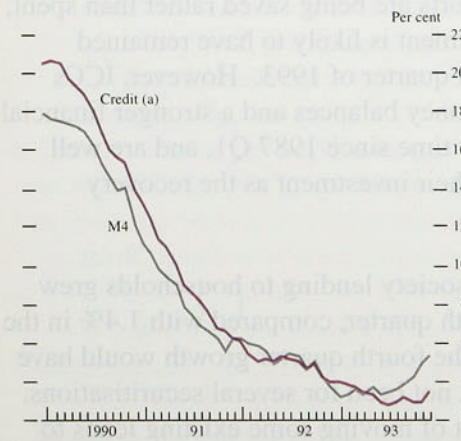


Chart 2.2
12-month growth rates of M4 and the credit counterpart to M4



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

Monetary quantities are particularly useful guides to shocks on the demand side of the economy. In part, this is because monetary policy in the UK operates through the control of short-term money-market interest rates, leaving the quantity of money to fluctuate with shifts in demand. Monetary aggregates can therefore provide corroborative evidence of trends in demand and activity. Indeed they often give more up-to-date information than those statistics from the real economy itself.

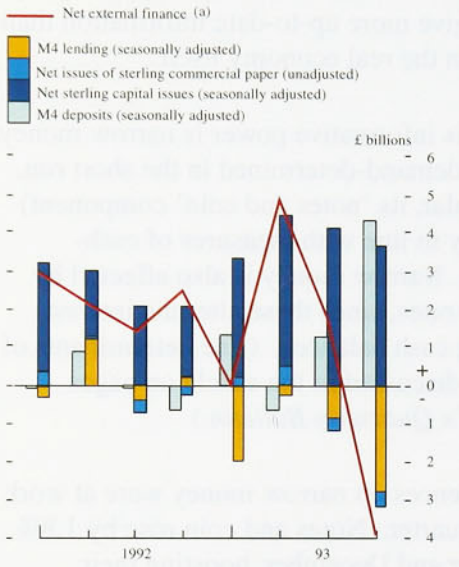
One example of this informative power is narrow money, M0. Because it is demand-determined in the short run, M0 (and, in particular, its 'notes and coin' component) moves quite closely in line with measures of cash-financed spending. Narrow money is also affected by changes in interest rates, since these alter the interest forgone by holding cash balances. (The determinants of narrow money are discussed in the article on pages 46–50 of February's *Quarterly Bulletin*.)

Both of these influences on narrow money were at work during the fourth quarter. Notes and coin rose by 1.8% between September and December, boosting their 12-month growth rate to 5.7% in December (Chart 2.1). This was much the same as the growth in the value of retail sales over the same period. The monthly changes in M0 have been rather more erratic, so that the 12-month growth rate rose from 5.1% in September to 5.8% in December, then down to 5.3% in January this year. This is well above the 0%–4% monitoring range for M0, but that in itself is not yet grounds for concern about inflation. Recent Bank work suggests that the unexplained component of narrow money is a better indicator of incipient inflationary pressures, and the recent strength of M0 can be explained largely by the effects of earlier interest rate movements.

Broader measures of money and credit, such as M4 and M4 lending, provide extra information about spending on a broader front, activity and future inflation. The links between broad money and inflation are not straightforward, and it is helpful to disaggregate the total into sectoral components. As some deposits are held for transactions purposes and others for savings purposes, a particular level of aggregate deposits can be consistent with many combinations of savings and expenditure.

The 12-month growth in broad money continued to pick up during the fourth quarter. It reached 5.4% in December (Chart 2.2), the highest for over a year. The

Chart 2.3
Estimated total quarterly sterling borrowing and deposits by ICCs



(a) Total M4 lending to, less M4 deposits by, ICCs, net issues of sterling commercial paper and capital issues by ICCs.

three and six-month annualised rates were even stronger, at 8.8% and 6.8% respectively. Real money balances are now growing faster than for some time. M4 lending has remained subdued, its annual growth rate rising only slightly to 3.5%. The contrast is unusual, since M4 and M4 lending have historically grown at broadly similar rates. So which aggregate is providing the better signals?

Part of the answer to that question lies in the sectoral composition of the aggregates. Since different sectors hold deposits or borrow for different reasons, the link from money to spending is often clearer when looked at sectorally (see the articles on pages 46–50 of February's *Quarterly Bulletin*, and on pages 478–91 of the November 1993 *Quarterly Bulletin*). From this perspective, the divergence between M4 and M4 lending in the fourth quarter reflects the continued reluctance of both households and (particularly) companies to increase their borrowing from banks and building societies.

Industrial and commercial companies (ICCs) repaid bank and building society borrowing, for the fourth quarter in succession and by a record amount (£2.8 billion). This repayment was part of a broader financial picture in which ICCs' M4 deposits grew by £4.3 billion. New borrowing less new deposits fell to -£7.1 billion. This is the lowest level of net borrowing since records began and compares with an average of -£1.7 billion in the previous three quarters. During that period, ICCs increased their borrowing from the capital markets. In the fourth quarter, however, net capital issues were more modest, and total borrowing net of deposits fell sharply (Chart 2.3).

All these data suggest that corporate receipts from higher retail sales and exports are being saved rather than spent, which means investment is likely to have remained sluggish in the final quarter of 1993. However, ICCs now have higher money balances and a stronger financial position than at any time since 1987 Q1, and are well placed to increase their investment as the recovery gathers pace.

Bank and building society lending to households grew by 1.3% in the fourth quarter, compared with 1.4% in the previous quarter. The fourth quarter growth would have been stronger had it not been for several securitisations, which had the effect of moving some existing loans to households out of M4 lending. Lending for house purchase rose by 1.6%, similar to the growth rate in the third quarter and up from a quarterly average of 1.4% in

the first half of 1993. This pattern is consistent with the recent slight upturn in the housing market.

All these factors together suggest that individuals' borrowing for consumption was relatively strong in the final quarter of 1993. Earlier in the year, individuals were financing their extra spending by saving less rather than borrowing more. The fourth-quarter growth in *both* borrowing and deposits by the personal sector suggests that extra spending has been becoming more broadly based.

Unincorporated businesses reduced their stock of bank and building society borrowing by £0.1 billion in the fourth quarter, after an increase of £0.4 billion in the previous quarter. The pattern during the year suggests that their financial restructuring in the early part of the upturn is almost over—in which case, more of their future income will be available for spending in 1994, rather than being used to repay their existing debts.

The public sector made a large contribution to M4 growth in 1993. Banks and building societies switched into gilts following the change in the government's funding policy to include these institutions' gilts purchases last year. But the shift is also likely to have reflected the *cyclical* component of the PSBR. This is expected to diminish—and the M4 private sector's demand for borrowing to pick up correspondingly—as the economy recovers. The medium-term correspondence between M4 and lending by banks and building societies would then be re-established.

The Divisia measure of money uses a different method of disaggregating the broad money data. It weights the various components of M4 according to their transactions characteristics: the higher their transactions component, the more likely it is that these deposits will be used to finance expenditure. In the fourth quarter, the annual growth rate of the Bank's Divisia index increased for the fourth consecutive time, to 4.7% compared with the trough of 2.6% in the fourth quarter of 1992. Growth came from both the personal and corporate sectors, with corporate growth at its fastest since 1991 Q1.

2.2 Interest rates and exchange rates

Official interest rates were cut by 50 basis points on 23 November. Although slightly ahead of the Budget, the reduction took account of the implications of the

Chart 2.4
Implied forward interest rates

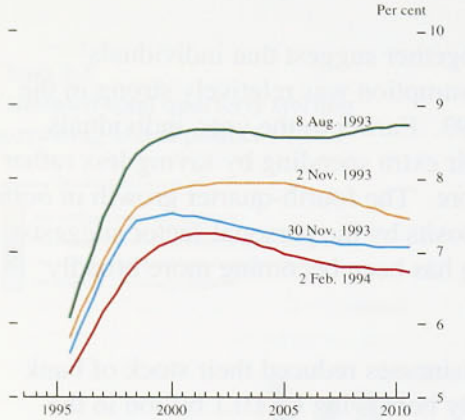
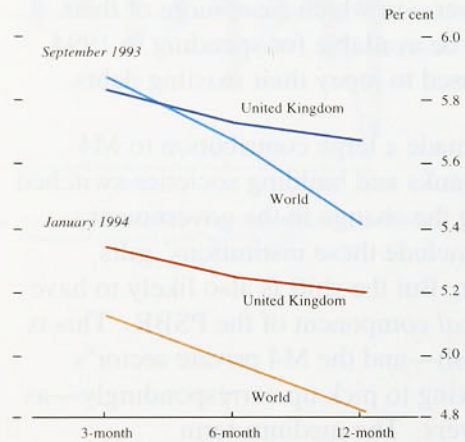


Chart 2.5
UK and trade-weighted world interest rate yield curves



UK trade-weighted interest rate differentials

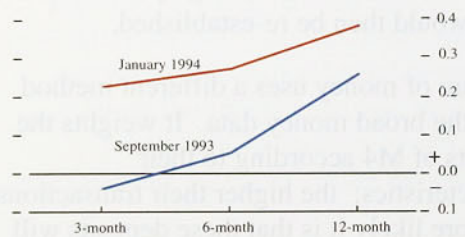
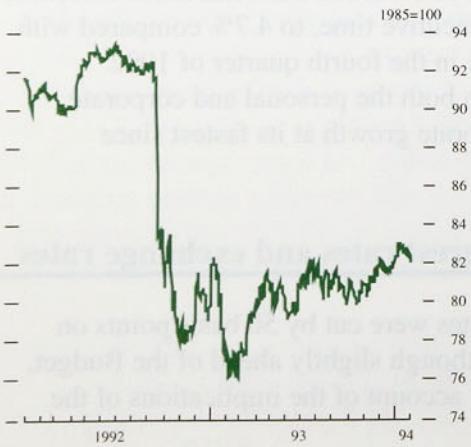


Chart 2.6
Sterling effective index



fiscal tightening announced in the Budget for demand and activity and thus for inflationary pressures (see Section 3 for an analysis of the Budget measures). With the Budget tighter than the markets had expected and the inflation picture continuing to improve, market interest rates fell following the Budget. This reflected a growing view that rates would be cut again in the first quarter of this year, though the speculation later receded.

On 2 February, three and twelve-month money-market rates were 5.44% and 5.25%, compared with 5.40% and 5.28% before the Budget and a low of 5.22% and 5.02% in December. The structure of sterling futures rates on the same day suggested that the markets still expect a further ½ point cut in interest rates, but not until the second quarter. Beyond that, implied forward rates suggest that official interest rates are expected to rise gradually, reaching a peak at around 2002. However, the level of this implied interest rate path has fallen substantially since the last *Report*, reflecting lower expectations of future inflation (see Chart 2.4).

The UK trade-weighted world interest rate differential increased slightly between September and January, with weighted world interest rates falling by more than those in the United Kingdom. But this differential remains small, at no more than 40 basis points up to a one-year maturity (Chart 2.5). Sterling's effective exchange rate stayed within a narrow range but has strengthened a little since the last *Report* (Chart 2.6).

2.3 Summary

Narrow money, M0, has continued to grow erratically, at an annual rate above its 0%–4% monitoring range. Broad money growth increased to an annual rate of 5.4% in December, within its monitoring range. Much of the recent strength in M0 can be explained by earlier interest rate movements, and M4 lending has been weaker than M4 itself. The increase in M4 growth reflects the rise in real money balances, especially of the corporate sector. These data are consistent with a continued recovery and further balance sheet adjustment by indebted firms. Official interest rates were reduced by 50 basis points on 23 November, and market rates have also fallen as inflation expectations have come down. The very small UK trade-weighted world interest rate differential implies that little change in exchange rates is expected.

Demand and output 3

In the short run, inflation is affected by movements in demand relative to productive potential, and the interactions between the two.

3.1 Demand

Overview

GDP increased by 0.7% in the fourth quarter of 1993, to a level 2.5% higher than a year earlier. For non-oil GDP, the respective figures were 0.5% and 2.1%. The data on the expenditure components of GDP for the fourth quarter are not yet available. In the year to the third quarter, the main contributions to growth came from consumer spending and net trade (see Table 3.A).

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

Percentage changes

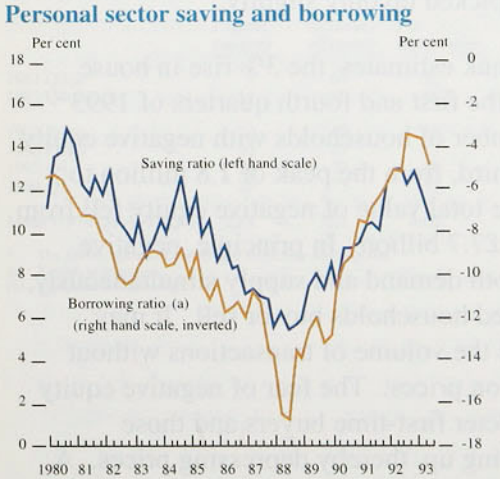
	Quarterly changes		Four-quarter changes	
	Q2	Q3	Q2	Q3
Consumers' expenditure	0.5	1.0	2.0	2.6
Public consumption	0.9	-0.1	-1.1	0.8
Investment	-2.7	0.7	-0.7	0.5
Domestic demand	0.8	0.3	1.6	1.4
Exports	-1.4	2.9	1.5	5.2
Total final demand	0.3	0.8	1.6	2.1
Imports	-0.9	1.3	0.4	1.8
GDP	0.7	0.7	1.9	2.2

The impact of indebtedness on consumption and investment seems to be receding. The saving ratio has fallen further and companies moved into financial surplus in 1993.

Personal spending

Consumers' expenditure rose by 1.0% in real terms during the third quarter of 1993, the sixth consecutive quarterly increase. The saving ratio declined to 10.6%, from 11.7% in the second quarter and 12.8% in the first (Chart 3.1). The fall in the saving ratio more than accounted for the 1.5% rise in consumption between the first and third quarters as real personal disposable income declined by 1%. Not since 1969 has falling disposable income been accompanied by rising consumption in consecutive quarters. There was a similar fall in the saving ratio after the recession of the early 1980s; but that fall was aided by tax cuts and fuelled by extra borrowing following financial liberalisation, a process which is now largely complete. By contrast, the tax increases announced in the March and November Budgets are expected to reduce real disposable income growth by 1½ percentage points in 1994/95, one percentage point in 1995/96, and a further half a percentage point in 1996/97.

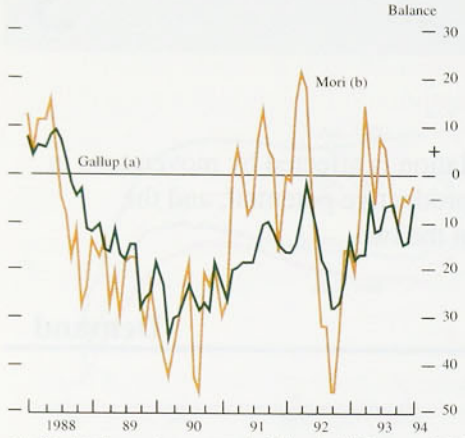
Chart 3.1
Personal sector saving and borrowing



(a) Bank and building society borrowing by the personal sector as a proportion of personal disposable income.

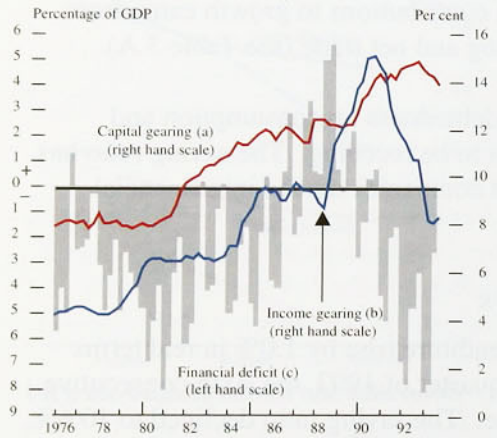
Retail sales (which make up about 40% of consumers' expenditure) have continued to grow, by 0.7% in the last quarter of 1993. The CBI Distributive Trades Survey

Chart 3.2
Consumer confidence



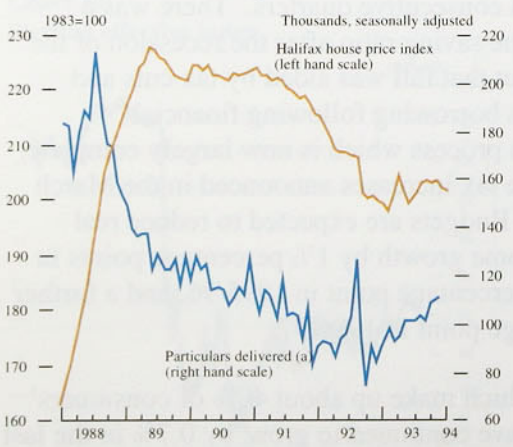
(a) Based on five questions concerned with households' finances and their assessment of economic conditions.
(b) Response to enquiry concerning the general economic situation of the country.

Chart 3.3
Personal sector gearing and financial deficit



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

Chart 3.4
Housing market activity



(a) Particulars delivered is moved back one month because figures refer to activity in the previous month.

showed that in December a balance of 34% of retailers had higher sales than a year ago—back in line with the balances reported last summer.

The personal sector saving ratio has generally remained higher during this recovery than in previous upturns, as people sought to offset the higher levels of debt. For the next two years or so, consumption growth will depend on further falls in the saving ratio. During 1993, consumer confidence may have benefited from the falls in unemployment, even though income from employment was flat (Chart 3.2). If real personal disposable income were to stay at its present level for the next two years, then a growth rate of 2½% a year in real consumption would imply a fall in the saving ratio to around 6% by the end of 1995. This would be just above its value in its trough in 1988.

One reason consumers built up their savings during the recession was the impact of falling asset prices, particularly house prices, on real debt burdens. These falls also raised capital gearing (defined as borrowing from banks and building societies as a proportion of personal sector net financial and physical assets: see Chart 3.3). Capital gearing has declined slightly, from an estimated 14.9% in 1992 Q3 to 13.9% in 1993 Q3, as asset prices have begun to recover. House prices have risen 1.7% since the February trough (Chart 3.4), but are still 11.5% below their May 1989 peak, according to Halifax Building Society data. Despite the rise in prices, the volume of transactions in the housing market (as measured by particulars delivered to Land Registries) has picked up only slightly.

According to Bank estimates, the 3% rise in house prices between the first and fourth quarters of 1993 reduced the number of households with negative equity by almost one third, from the peak of 1.8 million to 1.3 million. The total value of negative equity fell from £11.7 billion to £7.7 billion. In principle, negative equity affects both demand and supply simultaneously, since few affected households buy or sell. It may therefore reduce the volume of transactions without much net effect on prices. The fear of negative equity may, however, deter first-time buyers and those considering trading up, thereby depressing prices. A small further rise in house prices would markedly reduce the scale of negative equity, and stimulate consumption spending.

During 1993, consumer borrowing net of deposits was £1.5 billion higher (at £5.6 billion) than in 1992.

Personal sector income gearing, which had declined sharply with the falls in interest rates since 1990, is estimated to have risen slightly in the third quarter. Meanwhile, the personal sector was a net purchaser of company securities in the first three quarters of 1993, and flows into life assurance companies and pension funds continued at a steady pace. The strength of the stock market—the FT-SE 100 index rose 7.3% between the third and fourth quarters, and was 18.3% higher in 1993 Q4 than a year earlier—has substantially increased personal sector wealth.

Investment and stockbuilding

So far in this recovery, companies have been slow to increase investment, partly because of the large debts they took on in the late 1980s. In 1993 Q3, non-residential fixed investment was 0.4% higher than in the same quarter of 1992. However, this followed a year-on-year fall of 2% in Q2. The January CBI Industrial Trends Survey reports a balance of 7% of manufacturing firms expecting to increase investment in the coming year—the first positive balance since July 1989.

Investment remained higher during the recent recession than in previous downturns. Total investment by industrial and commercial companies (ICCs) averaged 8.0% of GDP in 1992, compared with 6.5% in 1981 and 6.4% in 1975. Higher investment has reflected higher profitability, with a real rate of return on capital (excluding North Sea oil companies) of 7% in 1992, compared with 3% in 1981.

Table 3.B shows the reasons currently given by firms as limiting investment. As in the previous cycle, uncertainty about demand was the major factor until this quarter. At the same time, however, the CBI's January quarterly survey (Table 3.C) shows that, in 1994 Q1, 25% of firms are planning to invest to expand capacity. This compares with 22% in 1993 Q3, and only 11% in 1982 Q4, a similar stage in the last cycle. It seems that firms are becoming more confident about the strength of future demand and that investment may pick up in the coming months. Moreover, other business surveys since the Budget show increasing confidence: the Purchasing Managers' Index rose to 54.6 in December from 53.6 in October, and the Institute of Directors Survey showed business confidence improving to a balance of 47% in December, from 42% in October.

Table 3.B
Factors limiting manufacturing capital expenditure (CBI Industrial Trends Survey*)

Percentage of firms answering yes

	Inadequate net return	Lack of internal finance	Lack of external finance	Cost of finance	Uncertainty about demand
1981 Q2(a)	35	22	3	11	53
1982 Q4(b)	36	26	2	4	52
1992 Q1(a)	47	23	4	11	60
1993 Q3(b)	44	27	5	5	54
1993 Q4	49	26	3	4	55
1994 Q1	46	24	3	2	44
Mean (1979 Q4–1993 Q4)	41.1	21.2	2.5	11.5	45.6

* The Survey allowed firms to give more than one response.
(a) Trough of recession.
(b) Six quarters after trough.

Table 3.C
Reasons for manufacturing capital expenditure (CBI Industrial Trends Survey*)

Percentage of firms answering yes

	Expand capacity	Increase efficiency	For replacement
1981 Q2(a)	9	64	52
1982 Q4(b)	11	70	55
1992 Q1(a)	19	69	52
1993 Q3(b)	22	67	53
1993 Q4	26	72	50
1994 Q1	25	75	52
Mean (1979 Q4–1993 Q4)	22.5	72.1	49.6

* The Survey allowed firms to give more than one response.
(a) Trough of recession.
(b) Six quarters after trough.

Chart 3.5
ICCs' financial balance

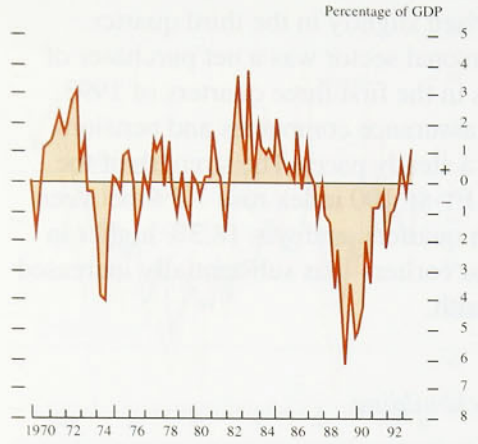


Chart 3.6
Changes in stocks (3-month moving average)

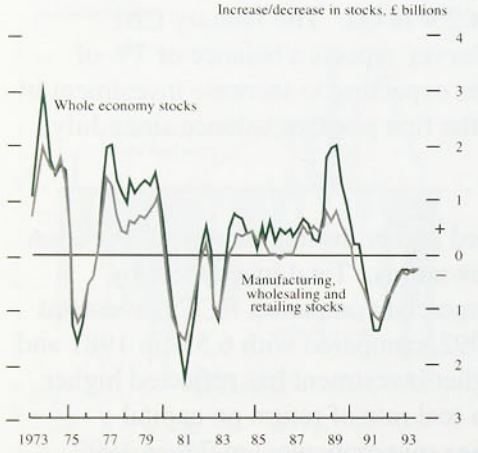
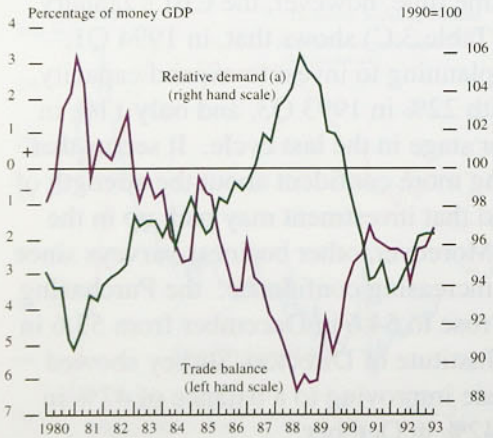


Chart 3.7
Relative domestic demand and the UK trade balance



(a) Index of domestic demand as a ratio of world domestic demand.

ICCs have continued to make net repayments to banks: a total of £6 billion last year, in sharp contrast to their average *borrowing* of £23.9 billion a year between 1988 and 1990. This is partly because they have turned increasingly to the capital markets for finance; their net capital issues totalled £14.9 billion in 1993, compared with £8.3 billion in 1992. In addition, retained earnings rose strongly this year, enabling firms to finance more of their investment internally. ICCs' retained earnings were £24.6 billion in the first half of 1993, up about 35% on a year earlier. Since they have grown much faster than investment spending, the corporate sector has moved into a financial surplus, of £2.3 billion, in the first three quarters of 1993 following five years of large deficits (Chart 3.5).

Stocks in the manufacturing, wholesaling and retail sectors combined have shrunk in 14 out of the 16 quarters since 1989 Q3 (Chart 3.6). In the previous recession, stocks decreased for only seven successive quarters. In contrast to the 1980–81 recession, when the manufacturing stock-output ratio increased as GDP fell, the recent downturn saw it fall steadily, as improvements in stock control outweighed any cyclical effect. For the economy as a whole, it is expected to continue falling. In manufacturing, however, according to the CBI Industrial Trends Survey, more firms are planning to increase stocks in the present recovery than in previous recoveries.

Overseas trade

The visible trade deficit in the first three quarters of 1993 was £8.8 billion, down from £9.1 billion during the same period of 1992. The fall was entirely the result of trade with EU countries; the deficit with the rest of the world increased from £6.6 billion to £7.7 billion.

The importance of relative demand movements for the balance of trade is illustrated in Chart 3.7. Between 1985 and 1988, UK domestic demand increased by around eight percentage points more than world demand and the trade deficit rose to over 6% of GDP. Although the growth in UK demand *vis-à-vis* the rest of the world was more than reversed during the recession, the trade deficit remains at around 2% of GDP. This reflects the tendency for the United Kingdom to have higher investment than saving rates.

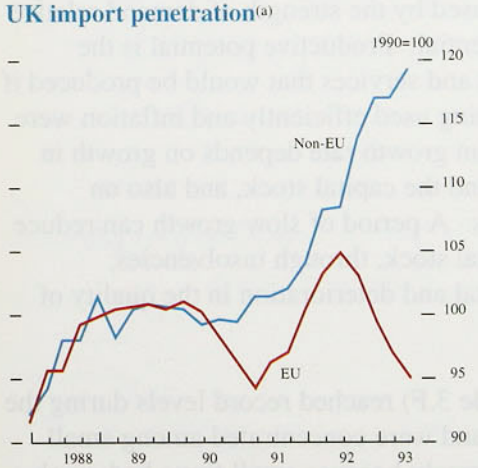
The other main determinant of the trade balance is competitiveness, measured by relative costs or prices, expressed in a common currency. In an economy with

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

Percentage changes on a year earlier

	Exports		Imports	
	1992 Q3	1993 Q3	1992 Q3	1993 Q3
EU	2.6	-2.3	10.3	-8.0
Non-EU	2.5	10.1	8.2	11.6
World	2.5	3.0	9.4	0.6
Memo:				
Total goods and services	1.0	5.2	6.6	1.8

Chart 3.8
UK import penetration[a]



(a) Import volumes divided by domestic demand.

spare capacity, improved competitiveness should lead to greater capacity utilisation, by increasing the rewards for selling abroad. However, these supply-side effects take time to emerge, whereas the effects of shifts in relative demand come through more quickly. Since sterling's departure from the ERM, UK relative unit wage costs have fallen by around 14%. As a result, although UK domestic demand has grown by around two percentage points more than demand abroad, growth in export volumes has exceeded growth in import volumes, contributing around 0.8 percentage points to the 2.2% growth in GDP in the year to 1993 Q3.

Just as the composition of domestic demand is significant, so is the composition of the trade balance. For a given level of imports, for example, a higher proportion of investment goods will increase the economy's productive capacity in the future. Within the category of finished manufactured goods (which accounted for half of imports in 1992), the volume of capital goods imported rose by 7.8% between 1992 Q3 and 1993 Q3, compared with a fall of 3.8% for cars and a rise of 1.8% for consumer goods excluding cars.

Closer analysis of trading performance is unfortunately complicated by the continuing uncertainties associated with the collection of EU trade statistics. It is notable that the volume of both imports and exports with the European Union has been lower than expected, with imports particularly depressed (see Table 3.D and Chart 3.8). By contrast, UK exports to and imports from outside the European Union have risen strongly. If, for the European Union, both import volumes and export volumes have been underrecorded and to a similar extent, then the *net* contribution of trade to growth should be broadly correct. However, as export price deflators are used in calculating estimates of manufacturing output, it is possible that the level of output as a whole could be understated. There are several ways to gauge the size of such an effect. One is to use export price equations to estimate the extent to which recent behaviour differs from what would have been expected based on historical experience. This suggests that manufacturing output is being underestimated by around 1%.

Fiscal developments

The first Unified Budget, on 30 November, included the Government's plans for taxation as well as spending (to 1996/97). The combined tax and spending measures were aimed at reducing the government's borrowing

requirement over the medium term, from an estimated £50 billion (7.75% of money GDP) in 1993/94, to £12 billion (1.5% of money GDP) by 1997/98. The direct impact of the measures is expected to fall more on households than on companies. By 1998/99, the Government projects that the Budget will be back in approximate balance.

General government expenditure (GGE), excluding privatisation proceeds, is expected to peak at 45% of GDP this year. It is then scheduled to grow in real terms by on average a little below 1% a year over the next three years, reducing it to 42.5% of GDP by 1996/97. Some of the changes to public spending forecasts since the March Budget have been structural (see Table 3.E).

Although smaller increases in public expenditure will do much to assist the fiscal adjustment, over the medium term the bulk of the adjustment will come from tax increases. The November tax measures, together with those increases announced in March, are due to raise additional revenue of just under 2½% of GDP by 1996/97.

Table 3.E
Expenditure plans

£ billions

	Changes in projections from March FSBR		
	1993/94	1994/95	1995/96
Structural:			
New Control Total	-0.4	-3.6	-1.5
Cyclical:			
Cyclical social security	-1.1	-1.3	-1.4
Central government debt interest	—	-0.8	-1.3
Accounting adjustment(a)	0.4	—	0.6
General government expenditure (excluding privatisation proceeds)	-1.1	-5.7	-3.6

Source: November 1993 FSBR.

(a) To make this consistent with the National Accounts.

3.2 Supply

In the long term, the underlying rate of inflation is determined by the stance of monetary policy. In the short term, however, it can deviate from that path—and deviations are caused by the strength of demand relative to productive potential. Productive potential is the quantity of goods and services that would be produced if all inputs were being used efficiently and inflation were stable. Its long-run growth rate depends on growth in the labour force and the capital stock, and also on technical progress. A period of slow growth can reduce the effective capital stock, through insolvencies, scrapping of capital and deterioration in the quality of capital assets.

Table 3.F
Insolvencies by sector

			Insolvencies by sector, as a percentage of total insolvencies excluding 'other'(a)			
	Total insolvencies	'Other'	Manufacturing	Construction	Retailing and wholesaling	Financial and business services
1980	6,890	713	33.9	15.4	22.7	12.6
1981	8,596	918	34.9	12.9	24.3	13.8
1982	12,067	990	36.6	12.8	25.0	11.0
1991	21,827	5,118	30.1	20.2	20.3	16.7
1992	24,425	5,610	29.0	20.4	19.8	17.8
1993 Q1	6,235	1,509	30.7	20.5	18.1	17.4
1993 Q2	5,318	1,318	28.6	21.2	18.6	18.5

Source: Department of Trade and Industry.

(a) Figures for 1993 Q1 and 1993 Q2 are not seasonally adjusted. 'Other' category includes companies which straddle a number of different sectors, as well as capturing any data recording problems; it is thus excluded for the purposes of calculating proportions of insolvencies in different sectors.

Insolvencies (Table 3.F) reached record levels during the recent recession, and were concentrated among small firms. This was largely because small firms had much bigger debts relative to their size, especially outside manufacturing. The sectors hardest hit were services and construction, whereas it was manufacturing firms which bore the brunt of the early 1980s recession. The extent to which insolvencies affect the capital stock depends on several factors. If small firms become insolvent but their capital is bought by larger firms, the net effect may be trivial. And, since services and

construction were hardest hit, and are two of the least capital-intensive sectors, the capital stock may have been less affected than in the previous recession. Also, the composition of the unused capital is relevant: it would be easier to re-use buildings, for example, than to re-use a machine designed for a specific manufacturing process.

The CSO measures the capital stock using a perpetual inventory method. This assumes that assets have fixed lives, regardless of economic conditions. Yet the scrapping of capital goods is likely to accelerate during recessions, which would imply a smaller output gap than would otherwise be the case. Information on scrapping is hard to come by and tends to be anecdotal. But various studies suggest there was less scrapping during the last recession than in the early 1980s. Indeed, with investment being higher than in previous recessions, it is possible that it remained above the basic level needed to cover replacement, implying that the capital stock may not have fallen.

It is likely that investment will pick up more quickly in those sectors in which firms are closest to capacity or more confident that they will soon reach that stage. The number of manufacturing firms operating below capacity fell from 60% in October to 57% in January, according to CBI survey figures. The greatest improvements were in food, drink and tobacco (down from 37% to 33%), in chemicals (50% to 41%) and in mechanical engineering (64% to 58%). The percentage of firms in the motor vehicle and transport industry reporting below-capacity usage remains high, at 92%. Unfortunately, the CBI survey covers only a limited number of sectors, and there is no similar information about the rest of the economy.

Summing up the available evidence, the capital stock probably suffered less in the recent recession than it did in the early 1980s, partly reflecting the fact that different sectors were affected. Since the recent recession was concentrated more in areas such as services and construction, the effects on supply will have been less significant.

Estimates of the difference between demand and potential supply vary considerably, because of the difficulty of resolving some of the supply-side issues raised above. Different methods agree, however, that the output gap stopped widening in 1992 and is almost certainly beginning to narrow.

3.3 Summary

Non-oil GDP increased by 2.1% over the year to the fourth quarter, with the main increases in aggregate demand coming from consumer spending and net trade. Further increases in personal consumption are likely, but will depend on the saving ratio falling, because real personal disposable income is unlikely to increase much over the next two years. The fiscal adjustment embodied in the March and November Budgets will fall mainly on the personal sector, but higher levels of household wealth will reduce the incentive to save. Investment and stockbuilding are likely to contribute more to growth as the recovery continues.

It is very difficult to measure potential supply, partly because the degree of scrapping in the last recession is uncertain. The capital stock probably suffered less than in the early 1980s. But the output gap is likely to narrow as demand increases.

The labour market 4

Average earnings are rising more slowly than they have done for a generation. But real wages per employee (money wages deflated by the TPI) have grown by 4.2% over the past two years. Table 4.A summarises the latest labour market indicators. In many firms, nominal wages reflect a bargain between employees and employers over planned increases in real wages. How the real wage bargain translates into nominal wage increases depends on bargainers' expectations of inflation. If, for instance, price increases brought about by tax changes are interpreted as signalling persistently higher inflation, wage bargains will be higher. This will lead to more unemployment than otherwise, and higher nominal wages and prices.

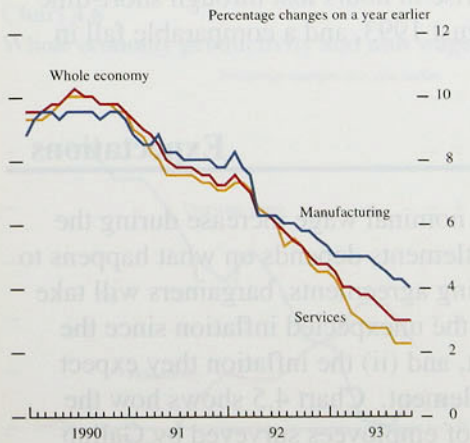
Table 4.A
Labour market indicators

United Kingdom, *seasonally adjusted*

	Units		Latest period	Half year ago	Year ago
Unemployment					
Change (qoq)(a)	000's	1993 Q4	-64.3	-52.4	109.8
Rate(a)	%	Dec. 93	9.8	10.4	10.6
Change (qoq)(b)	000's	Summer 93	26.0	94.0	109.0
Employment					
Change (qoq)(c)	000's	1993 Q3	91.0	-70.0	-394.0
Change (qoq)(d)	000's	Summer 93	-16.0	-156.0	-161.0
Vacancies	000's	Dec. 93	145.4	119.7	123.4
Hours of overtime	mn	Nov. 93	8.11	9.79	8.73
Hours lost through short-time working	mn	Nov. 93	0.39	0.26	0.75
Wages (growth)					
Underlying, whole Economy (GB)	%	Nov. 93	3	3¼	5
Manufacturing	%	Nov. 93	4	5	5¼
Services	%	Nov. 93	2¼	3	4¼
Settlements					
IRS	%	Dec. 93	2.0	2.0	3.6
IDS	% (e)	Jan. 94	2.0–2.9	0.1–1.9	3.0–3.9
CBI-manufacturing	%	Oct. 93	2.3	2.2	3.0
CBI-private services	%	1993 Q4	2.4	2.7	3.1

(a) Total numbers claiming unemployment-related benefit.
(b) Total numbers out of work and seeking work—*Labour Force Survey*.
(c) Workforce in employment, seasonally adjusted, *Department of Employment* returns from employers (count of jobs).
(d) Numbers in employment (aged 16 or over)—*Labour Force Survey*.
(e) Modal class. NB latest figure based on very small sample compared with other observations.

Chart 4.1
Underlying earnings growth



4.1 Nominal and real earnings

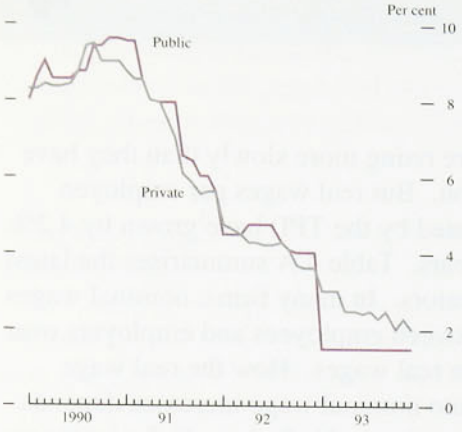
The twelve-month increase in underlying earnings has fallen from 3¼% in August to 3% in September, October and November. Earnings growth fell in all sectors (Chart 4.1). The IRS median measure of settlements in the whole economy has flattened out at 2%. Within the total, public sector settlements have continued at 1.5% (Chart 4.2). In the three months to November, manufacturing settlements averaged 2.2%, compared with 2.3% in the previous three months. The CBI also reports that settlements in services declined, from 2.6% to 2.4%, between the third and fourth quarters. Despite the improved financial position of many companies, the CBI says that about one fifth of manufacturing and one tenth of service companies are freezing pay.

The increases in pre-tax real wages reported recently are consistent with behaviour in the labour market during the 1970s and 1980s. However, increases in nominal earnings are over 4½ percentage points lower than during the 1980s, almost all of which can be explained by lower price inflation.

4.2 Unemployment

Unemployment may deter employees from pushing for large increases in real wages, although (as noted in past *Inflation Reports*) the response of real wages to both the level and the rate of change in unemployment is small in

Chart 4.2
Private and public sector settlements



Source: Industrial Relations Services (unweighted mean).

Chart 4.3
Changes in unemployment (Great Britain only)

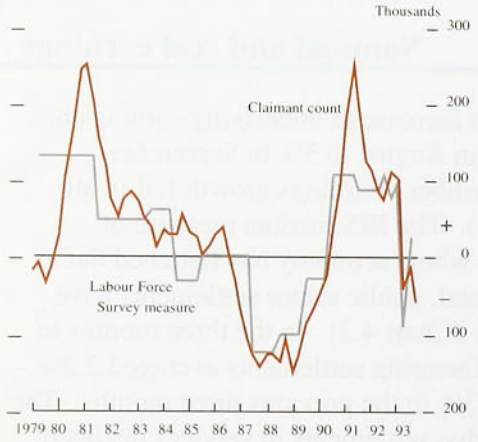
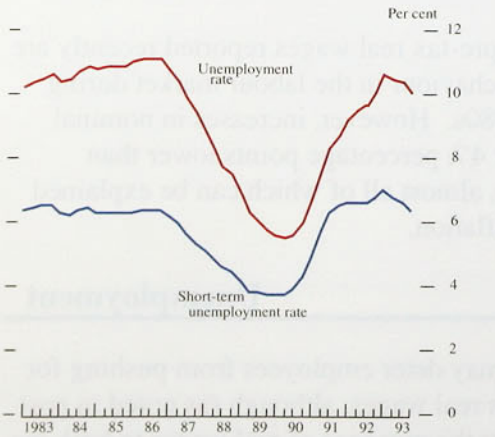


Chart 4.4
Unemployment and short-term unemployment[a]



(a) For Great Britain: less than 52 weeks duration. Adjusted by the Bank for seasonal factors and discontinuities.

the United Kingdom. Since the number registered began to decline in February 1993, the total fall in employment has amounted to 226,100. Historically, the claimant count (which includes only those claiming unemployment-related benefits) has varied much more than the Labour Force Survey (LFS) measure (which includes all those over 16 who are out of work and actively seeking it)—see Chart 4.3. The claimant count of unemployment fell by 17,200 per month on average last year, compared with 27,600 per month in the year from July 1986, the last downturn, even though output is growing at less than half the rate it was then. Chart 4.4 shows the unemployment rate based on the claimant count, and the short-term unemployment rate.

4.3 Employment

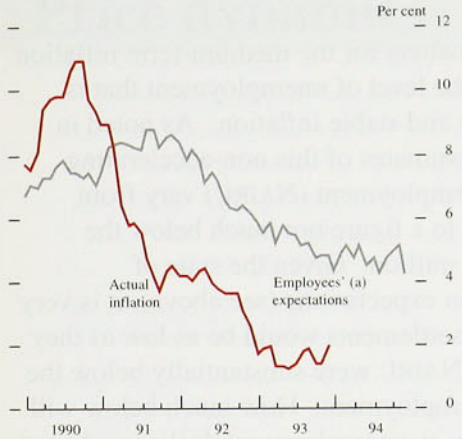
According to the Department of Employment's employer-based figures, the workforce in employment rose by 91,000 in the third quarter of last year. But there are growing differences between this series (which counts the number of jobs) and the Labour Force Survey figures (which count the number of people in work), and the differences are hard to explain. Comparing the latest Survey (for summer 1993) and the winter 1992 Survey, total employment increased by 135,000, although full-time employment fell. The employer-based figure over the same period increased by 54,000. Total hours worked in the economy actually fell between summer 1992 and summer 1993.

Other, more timely (but less precise) indicators of labour demand also offer conflicting evidence. The number of unfilled vacancies at Job Centres rose to 145,000 in December 1993, the highest figure since October 1990; on the other hand, in manufacturing industries there has been a substantial rise in hours lost through short-time working since August 1993, and a comparable fall in overtime working.

4.4 Expectations

The real value of a nominal wage increase during the period between settlements depends on what happens to prices. So, in making agreements, bargainers will take account of both (i) the unexpected inflation since the previous settlement, and (ii) the inflation they expect before the next settlement. Chart 4.5 shows how the mean expectations of employees surveyed by Gallup have changed over time. Since 1991, inflation has turned out lower than employees had expected. As a

Chart 4.5
Actual inflation vs employees' expectations



(a) Employees' one year ahead forecast for the given date.

Based on Gallup Survey of Employees.

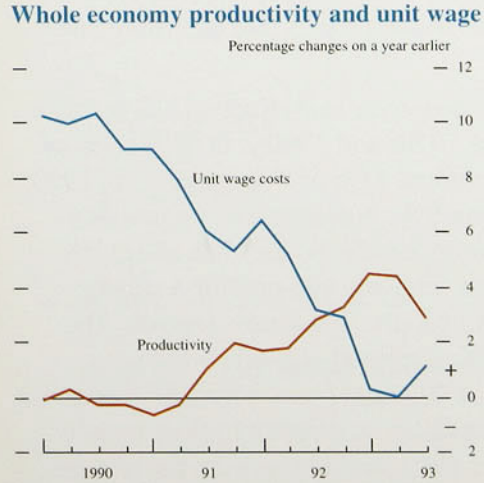
Table 4.B
Unit wage costs and their components

Percentage changes on same period in previous year

		Output	Employment	Labour productivity	Earnings per employee	Unit wage costs
(a)	**Whole economy**					
1991		-2.3	-2.8	0.5	7.5	7.0
1992		-0.5	-2.7	2.3	6.8	4.4
1992	Q3	-0.1	-2.7	2.7	5.9	3.2
	Q4	0.2	-3.0	3.3	6.2	2.9
1993	Q1	1.3	-2.9	4.5	4.7	0.3
	Q2	1.7	-2.4	4.4	4.3	—
	Q3	1.9	-0.8	2.9	4.0	1.1
(b)	**Manufacturing industry**					
1991		-5.3	-6.6	1.4	8.2	6.9
1992		-0.8	-5.5	4.8	6.6	1.6
1992	Q3	0.2	-4.7	5.0	6.1	1.3
	Q4	0.4	-5.6	6.2	5.8	-0.5
1993	Q1	1.9	-5.4	7.6	4.7	-2.7
	Q2	2.1	-4.6	7.0	4.9	-1.9
	Q3	1.8	-2.8	5.0	4.4	-0.6

Note: Manufacturing employment and average earnings are based on SIC1980; manufacturing output is based on SIC92.

Chart 4.6
Whole economy productivity and unit wage costs



result, recent nominal wage settlements have resulted in higher than expected real wage increases, which may help to hold down future wage settlements, provided expectations of inflation adjust rapidly. Inflation expectations remain above 4% per year, nominal wage demands are likely to put upward pressure on costs and unemployment.

4.5 Productivity

The benefits of productivity improvements may not be divided evenly between those in and those out of work, because they tend to be split between reductions in the price level (which increase everyone's purchasing power), increases in take-home pay (which benefit only those in work), and increases in the profit share. Productivity growth has slowed recently (see Table 4.B). The level of labour productivity barely rose in 1993 Q3. In manufacturing, the slowdown was even more marked, from a twelve-month rise of 6.1% in July to 3.1% in October, and no increase over the latest three months. Since earnings growth has remained fairly steady, unit wage costs in the whole economy have begun to rise again (see Chart 4.6).

In the medium term, this should not be a cause for concern. If firms now find it less costly to vary the number of staff they employ in line with changes in the demand for their products, then output and employment fluctuations should coincide more closely than before. This appears to be happening, as noted in the last *Inflation Report*. The corollary is that productivity should fall less in a recession and rise less in the recovery; productivity growth should stay closer to its long-run trend.

4.6 Summary

The labour market has changed considerably in the last decade. Wage bargaining is more decentralised; far fewer employees have their wages set by collective bargaining; and companies make more flexible use of their workers. But wages are still strikingly unresponsive to changes in unemployment. Either the labour-market reforms have yet to bear fruit, or other forces of inertia are at work to offset them. The most important factor preserving the bargaining power of employees may be the scarcity of their skills and an unwillingness to recruit from the ranks of the unemployed. If this is the case, then those in work, whether members of unions or not, will still be able to

push for real wage increases that, in aggregate, keep others out of work.

The question that matters for the medium-term inflation outlook is what is the level of unemployment that is consistent with low and stable inflation. As noted in previous *Reports*, estimates of this non-accelerating inflation rate of unemployment (NAIRU) vary from around one million to a figure not much below the current level of 2.8 million. Given the state of employees' inflation expectations (see above), it is very unlikely that wage settlements would be as low as they now are unless the NAIRU were substantially below the current level of unemployment. How much below will become clearer only as unemployment declines. As yet, there has been little sign of upward pressure on nominal earnings growth.

Price dynamics 5

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. These determine how firms' costs change as output changes. But it is vital to distinguish between changes in factor costs which are one-off, and will therefore affect inflation and expectations only in the short run, and those that are likely to be part of a continuing process. Table 5.A shows how variable these different cost elements have been in the past. The rate of change of input prices and productivity has been much less stable than increases in average earnings. Over short periods, movements in the rate of change of input prices give less information about changes in underlying inflation than do similar movements in earnings increases.

Table 5.A
Variability of factor prices, profits and retail price inflation[a]

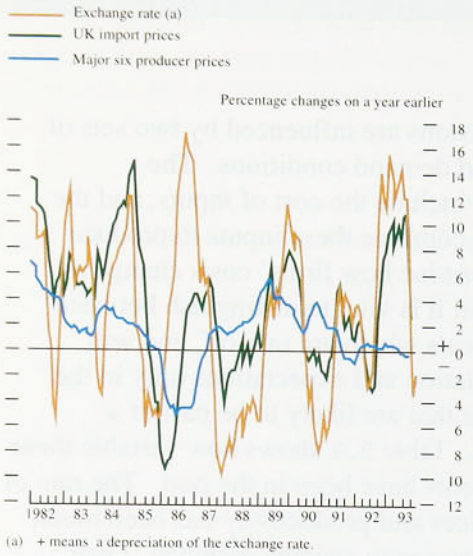
	Average earnings[b]	Productivity	Unit labour costs	Input prices[c]	Profits/GDP[d]	RPIX
1973 Q3–1978 Q3	2.1	2.4	2.7	3.8	11.8	1.9
1978 Q3–1983 Q3	1.6	2.1	2.6	2.5	10.3	1.6
1983 Q3–1988 Q3	0.5	1.2	1.2	1.9	5.7	0.7
1988 Q3–1993 Q3	0.9	0.9	1.3	1.9	4.7	1.0
Whole period	**1.7**	**1.8**	**2.4**	**3.1**	**8.7**	**1.7**

(a) Standard deviation of first difference of logs, using quarterly data.
(b) Including labour taxes.
(c) Weighted average of materials and fuels, semi and finished manufactured imports.
(d) Non North Sea profits.

In the short run, firms' costs will not vary strictly in proportion to output. When output is below the capacity of existing plant and employed labour, extra production may at the margin cost relatively little. In these circumstances, firms may be willing to cut prices to stimulate demand and, by increasing total revenue, to make a larger contribution to fixed costs. But when capacity is being fully used, the marginal cost of extra output may rise rapidly, leading to sharp changes in pricing behaviour. This is particularly likely when some factors of production (eg plant and skilled labour) are in inelastic supply in the short run.

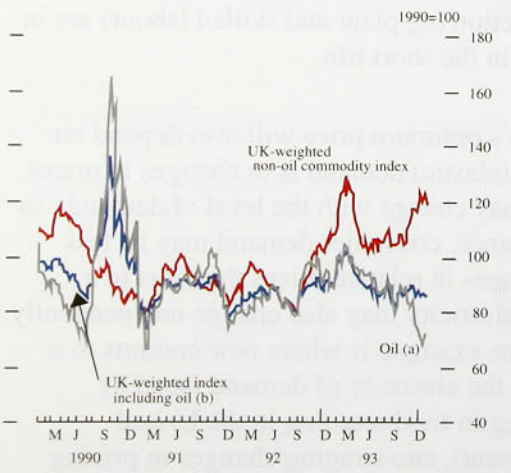
However, a firm's optimum price will also depend on how responsive (elastic) demand is to changes in prices. This elasticity may change with the level of demand: in a boom, for instance, consumer demand may be less sensitive to changes in relative prices than it is in a recession. But elasticity may also change independently of the cycle. One example is where new entrants to a market increase the elasticity of demand faced by existing firms (eg in food retailing in the United Kingdom at present), encouraging changes in pricing policy. The recent emergence of low inflation may itself have caused an increase in the elasticity of demand for individual firms' products, because low inflation helps purchasers to distinguish between relative price changes

Chart 5.1
The exchange rate, UK import prices and major six producer prices



(a) + means a depreciation of the exchange rate.

Chart 5.2
Sterling oil and non-oil commodity prices



(a) Measured by close-dated Brent crude.
(b) Weighted 45:55 commodities:oil.

and price changes that simply reflect general inflation. And information on the prices charged by different firms has a longer 'shelf life', as prices change less frequently. This ensures a greater pay-off to gathering information on prices from several sources, so consumers will spend more time searching for low prices, and the elasticity of demand faced by firms will increase. This is particularly true of big purchases, such as durables, or regular purchases, such as basic food.

5.1 Import prices

Overseas inflation will affect UK inflation only to the extent that it feeds through to the prices of tradable goods. That depends on how far the exchange rate moves to offset the difference between inflation in the United Kingdom and abroad. In the short term, import prices can affect UK inflation in two main ways. First, higher import prices increase the costs of UK firms, since imports account for around 35% of manufacturers' costs. Second, imports of consumer goods have a direct impact on RPIX, by increasing the supply costs of retailers. (In 1992, imports of finished manufactured consumer goods were equivalent to 18% of the value of total imports of goods and 6% of consumers' expenditure.) How much of the increased costs of manufacturers and retailers is passed on to purchasers depends on the level and elasticity of demand.

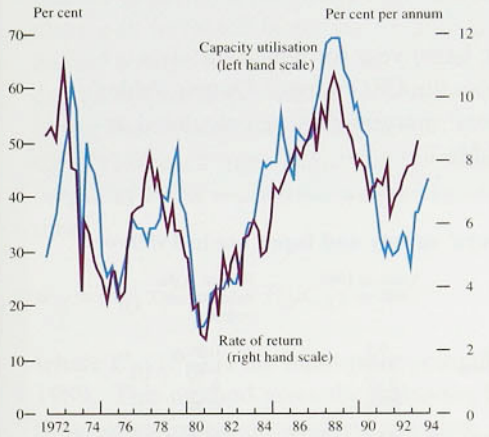
Past movements in sterling import prices have reflected changes in exchange rates more closely than changes in foreign prices (see Chart 5.1). To the extent that UK imports are purchased in competitive world markets, and because the United Kingdom provides only a small fraction of total world demand, UK import prices would be expected to change one-for-one with any change in the exchange rate. In fact, between 1992 Q3 and 1993 Q3, import prices rose by around 9½%, virtually matching the fall in sterling's effective exchange rate.

Commodity prices now have less effect on UK inflation than they did in the 1970s and 1980s. In 1973, non-oil commodities represented 17% of UK imports; in 1990, the figure was nearer 9%. Nevertheless, commodity prices are particularly volatile, so they can affect UK inflation in the short term and can provide a timely indicator of demand/supply imbalances abroad. The sterling index of UK-weighted non-oil commodity prices rose by 7% in 1993 Q4 (see Chart 5.2). Including oil, whose price has fallen, commodity prices rose by less than 1%. Over 1993 as a whole, both the non-oil

and all-items indices fell, with decreases in industrial commodity prices outweighing higher food prices. Much of the latter were the result of short-term supply factors which are unlikely to persist during 1994. Since GDP growth in the seven largest industrialised countries is likely to be sluggish in 1994, non-oil commodity demand and prices are expected to remain relatively depressed.

Crude oil prices, measured by close-dated Brent crude, fell by over $4 per barrel in the fourth quarter of 1993 to stand 30% lower than in 1993 Q1. The fall reflected several factors: lower demand forecasts; increasing non-OPEC production (especially in the North Sea); the potential additional supply from Iraq; and OPEC being unable to cut production to boost prices. These developments make it unlikely that oil prices will rise significantly in 1994.

Chart 5.3
ICCs' return on capital[a] and capacity utilisation in the manufacturing sector[b]



(a) Non North Sea ICCs' pre-tax rate of return on capital stock at replacement cost (net of capital consumption).
(b) 100 minus the percentage of manufacturing firms reporting working below capacity in CBI Industrial Trends Survey.

5.2 Profitability, margins and mark-ups

Firms' profitability and their prices in relation to costs are closely related and have implications for inflation and output. Profitability is best measured by the return producers earn on the capital they employ. That depends on (a) capacity utilisation and (b) how output prices move relative to factor prices. The two are interdependent. Capacity utilisation rates have a strong link to profitability (Chart 5.3).

As the economy recovers, an increase in capacity utilisation affects profitability in three main ways:

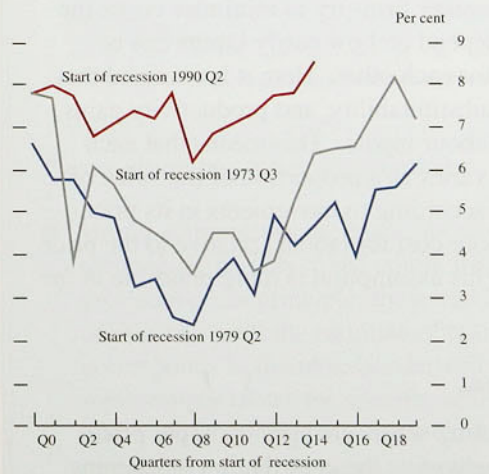
(i) it reduces fixed costs per unit of output, giving a higher return to capital. Recovery may also allow firms that have been hoarding labour to use it more effectively, thereby increasing average output per head and reducing average unit labour costs. This may lead to an increase in the ratio of prices to average costs;

(ii) it may produce higher marginal costs relative to average costs, and therefore higher prices relative to average costs; and

(iii) it may result in upward pressures on factor prices.

In combination, these factors explain why profitability, average margins and inflation (relative to the long-run rate determined by monetary policy) are all likely to increase in a recovery.

Chart 5.4
Profitability[a] in the last three recessions/recoveries



(a) Non North Sea ICCs' pre-tax rate of return on capital stock at replacement cost (net of capital consumption).

Margins and mark-ups

Introduction

The terms 'margins' and 'mark-ups' are often used synonymously, although in fact they are quite different. It is worth clarifying what they mean in this *Report*. 'Average margin' refers to the absolute difference between a good's selling price and the average variable cost of producing it. This is close to the definition of 'net margin' often used by firms (selling prices less unit costs of labour and the buying-in prices of goods and services). It differs from the 'gross margin' often cited by retailers, which is simply the difference between selling prices and the prices at which goods are bought in.

The term 'mark-up' refers to a good's selling price expressed as a proportion of its costs. Economists tend to regard the mark-up over *marginal* costs as the right measure for price setting; but most data refer to *average* costs, so most references in *Inflation Reports* are to the mark-up over average variable costs.

The average margin and the average mark-up are closely related: at unchanged costs, a change in one implies a change in the other. But when costs change, keeping one constant means that the other must change, since the margin is an absolute difference between prices and average costs whereas the mark-up is the ratio of prices to average costs. For example, if average costs rise, the average mark-up must fall to keep the margin unchanged. Keeping the average mark-up constant would produce a rise in the margin.

Of these concepts, the average margin can be most easily related to the real rate of profitability. The real rate is the average margin (suitably deflated) multiplied by output, and expressed as a percentage of the value of capital stock at replacement cost. At given levels of output and the capital stock, profitability will remain unchanged, regardless of what happens to costs, provided the average margin is constant. By contrast, an unchanged mark-up implies changing profitability when average costs vary.

Calculating manufacturers' margins

A method is described below for combining detailed but irregular data on manufacturing output and costs with frequent price data, to produce an estimate of how profits and margins change through time. The methodology has been revised since the last *Inflation Report*.

In 1989 (the latest year for which full data are available from the CSO's Input-Output Tables), manufacturers' margins may be calculated as shown in Table 1.

Table 1
Manufacturers' supply and input use in 1989[a][b]

	Value in 1989 £ billions	Weight in the value of total output
Materials and fuels	9.5	0.06
Manufactured imports	37.7	0.23
Bought-in services	23.7	0.15
Labour costs[c]	59.4	0.36
Residual[d] (= margins x volume)	32.3	0.20
Total	**162.6**	**1.00**

(a) Manufacturing excluding the food, drink and tobacco industries. These industries are excluded because the prices of their output is volatile, and duties are included in the output prices for these sectors, unlike the rest of manufacturing.
(b) Excludes sales by final buyers and taxes on expenditure less subsidies.
(c) Estimated income from self-employment is split between the residual and labour costs in proportion to the industry aggregate.
(d) It is assumed that domestic margins equal external margins in the base year, and that costs to domestic suppliers move in line with exporters' costs.

Thus the margins of UK manufacturing industry as a whole were close to 20% in 1989. This is higher than for individual manufacturing firms because we exclude inputs purchased from other manufacturers from costs, to avoid double counting.

Updating these figures using price data requires assumptions to be made about how firms' use of inputs is affected by changes in their relative prices. Assuming firms try to minimise costs, the effect will depend on how easily inputs can be substituted for each other. Here it is assumed that there is no substitutability, and productivity gains only affect labour inputs. This means that each input's cost varies as a proportion of the value of output only according to movements in its price (the unit labour cost for labour) relative to the price of output. This assumption is more plausible in the short run.

Measurement

In an accounting sense, changes in output prices may be thought of as the contribution of margins plus the change in the prices of factor inputs, where each factor is weighted by the share of its costs in the value of output.

This can be written:

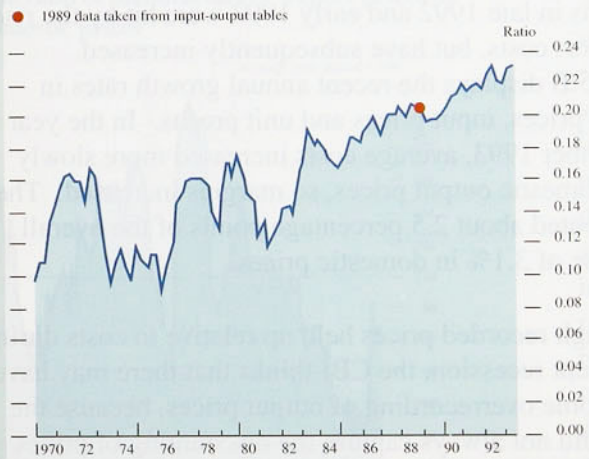
$$\frac{\Delta P_t}{P_t} = (1 - \Sigma w_{it}) \frac{\Delta M_t}{M_t} + \Sigma w_{it} \frac{\Delta C_{it}}{C_{it}}$$

where $\Delta M_t/M_t$ is the annual change in profits per unit of output in period t, C_{it} is the unit cost of factor i in period t, $\Sigma w_{it}\Delta C_{it}/C_{it}$ is the annual change in weighted factor prices, and $\Delta P_t/P_t$ is the annual change in output prices. $(1-\Sigma w_{it})$ is estimated profits per unit of output in period t. Using the variable weight method, if w_{i0} are the weights of each input's costs in the value of total output in 1989, w_{it} are the weights in other years, then:

$$w_{it} = w_{i0} \times C_{it}/P_t \times P_0/C_{i0}$$

where C_{i0} (P_0) is the input price (output price) in 1989. This method gives the following quarterly time series for manufacturers' margins. (A shorter monthly series is shown in Chart 5.5.)

Chart A
Manufacturers' margins as a proportion of output prices[a]



(a) Proxied using data for the prices of manufacturers' output and factor inputs.

This measure has some shortcomings:

- strong assumptions are made about production technology namely, fixed coefficients of production. In principle, these can be tested by seeing how well the estimate of margins corresponds to the measure derived from input-output tables for specific years before 1989. For example, assuming Cobb-Douglas technology and cost minimisation gives a relatively poor fit. Goodness of fit in 1984 guided the choice of assumption made here, but further refinements are possible;

- output prices may be overrecorded in recession. The CSO asks firms to give actual rather than book prices, but it is possible that some firms do not take discounting, which is common in recessions, fully into account. Thus output prices, and hence margins, may be overrecorded in recession, but increase faster than recorded as the economy recovers;

- not all costs are included. The broadest definition of costs would include the price of all variable factors of production, the user cost of fixed capital and indirect taxes such as business rates;

- there are insufficient data for the price of bought-in services to be measured precisely and on a timely basis. Domestic output deflators for bought-in services are only available on an annual basis; and they represent prices charged to the whole economy rather than to the manufacturing sector. 1992 is the most recent year for which this series is currently available. Quarterly data have been constructed using the annual data and quarterly information on the deflator for GDP excluding North Sea output. The same series is also used to estimate bought-in costs in the period after 1992;

- the price data used are not necessarily consistent with the prices used in constructing the input-output tables; and

- the production structures of the domestic and export sectors are not distinguished.

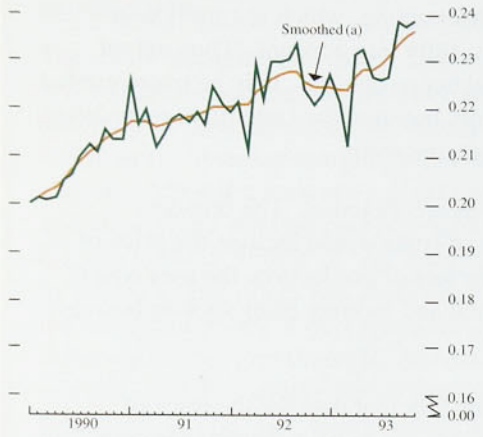
Annual growth rates of input and output prices are reported in Table 5.B. These can be weighted to give the percentage contribution of each cost component to the increase in output prices. Table 2 below shows contributions for the year to November 1993.

Table 2
Contributions to manufacturers' annual output price increases, November 1993[a][b]

		Percentage point contribution	Weight in value of output
A	Unit labour costs	0.2	0.37
B	Physical inputs	-0.2	0.26
	of which:		
	Materials and fuels	—	*0.05*
	Semi-manufactured imports	*-0.3*	*0.16*
	Finished manufactured imports	*0.2*	*0.05*
C	Bought-in services	0.6	0.15
D	Margin (= E-C-B-A)	2.5	0.22
E	Output price increase	3.1	(c)

(a) All manufacturing industry excluding the food, drink and tobacco industries.
(b) Figures may not sum because of rounding.
(c) Not applicable.

Chart 5.5
Manufacturers' margins as a proportion of output prices



(a) Using the Kalman filter.

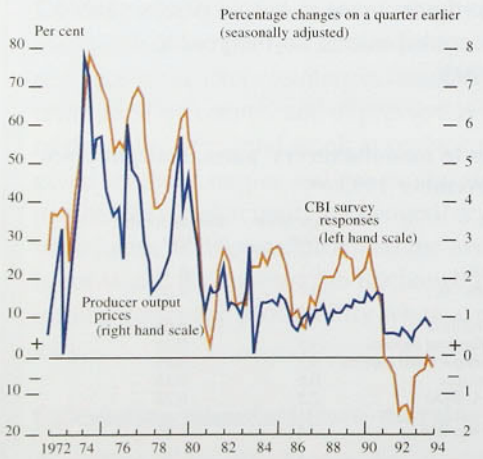
Table 5.B
Manufacturing input prices, unit profits and output prices

Percentage changes on a year earlier

	1992	1993				
		Q1	Q2	Q3	Oct.	Nov.
Unit labour costs	1.4	-2.3	-1.2	-0.4	0.8	0.6
Manufactured imports(a)	-0.7	7.5	7.0	8.4	1.3	-0.4
Materials and fuels (b)	-2.0	5.5	4.3	5.2	1.2	-0.6
Bought-in services(c)	6.0	4.0	2.9	3.0	3.6	3.7
Weighted average costs(d)	1.4	1.8	2.0	2.8	1.4	0.8
Domestic profits per unit of output(e)(b)	5.0	3.6	3.7	2.3	9.2	11.2
Domestic output prices(b)	2.2	2.2	2.4	2.7	3.2	3.1

(a) Latest month's trade prices are estimated using data for non-EC 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 imports listed above, using variable weights.
(e) The annual change in $P_t/P_0 \cdot \Sigma(w_{i0}C_{it}/C_{i0})$, 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. w_{i0} is the weight of factor i in the total value of output in 1989 (from the 1989 Input-Output Tables).

Chart 5.6
Producer output prices(a) and CBI prices of domestic orders(b)



(a) Excluding food, drink, tobacco and petroleum.
(a) Balance of firms whose prices of domestic orders has risen over the last four months minus those whose prices have fallen.

Chart 5.4 shows that profitability has been less volatile in the latest cycle than in the two previous cycles. Part of the reason is that firms have treated labour more as a variable factor of production this time, enabling them to contain labour costs at a much earlier stage. This has shifted forward the productivity cycle and dampened it (see Section 4). The corollary is that there may be less growth in productivity, and hence profitability, later in this recovery relative to previous cycles, when profitability continued growing strongly for almost three years after the trough in GDP.

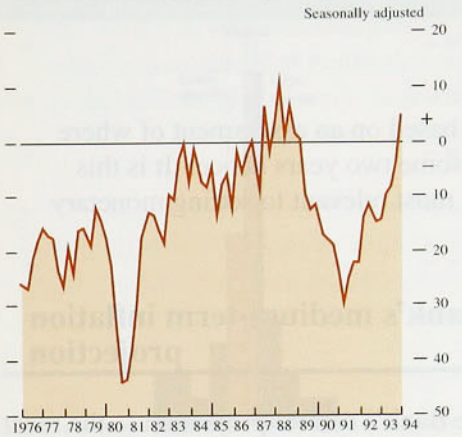
According to published data, manufacturers' margins have been less affected in the recent recession than previously. Indeed, they edged up in the two years before the trough of the recession, whereas in the two previous episodes they fell quite sharply. The meaning and measurement of margins are discussed in the box on pages 32–3, where a long-run series is presented.

Chart 5.5 shows how the Bank's estimate of manufacturers' margins has moved since 1990. The series is volatile, but a smoothed version illustrates how margins in late 1992 and early 1993 were hit by the rise in import costs, but have subsequently increased. Table 5.B displays the recent annual growth rates in output prices, input prices and unit profits. In the year to November 1993, average costs increased more slowly than domestic output prices, so margins increased. They contributed about 2.5 percentage points of the overall increase of 3.1% in domestic prices.

Although recorded prices held up relative to costs during the recent recession, the CBI thinks that there may have been some overrecording of output prices, because the index did not always capture the discounting of prices below book prices. Chart 5.6 shows that a balance of CBI firms reported that they were cutting prices in the second half of 1991 and throughout 1992, whereas the output-price series continued to show rises. Margins may therefore have been narrower in the recent recession than official data show, but the same CBI series has risen since late 1992, narrowing the gap between the official and CBI estimates.

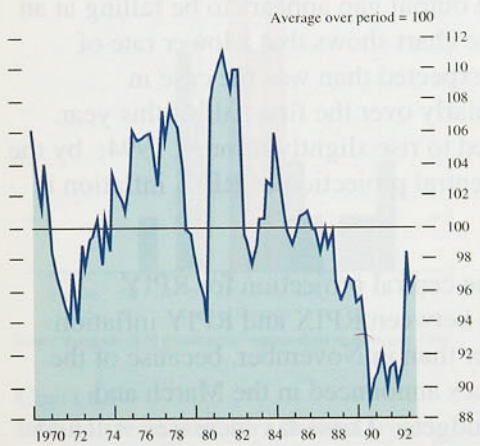
Although there are uncertainties about the data, the picture of prices strengthening in relation to costs is robust, and is supported by CBI quarterly surveys. Chart 5.7 looks at the difference between the balance of CBI firms reporting higher prices and the balance reporting higher costs. The upward slope of the line indicates a probable increase in margins.

Chart 5.7
Proxy of price-cost differential using CBI Industrial Trends Survey data[a][b]



(a) Proxy for price-cost differential = (the balance of firms experiencing an increase in prices) minus (the balance of firms experiencing an increase in costs), seasonally adjusted.
(b) The CBI question refers to price and cost developments over the last four months.

Chart 5.8
The ratio of manufacturers' export prices to domestic prices



5.3 Export prices

Between 1988 and 1991, profit margins on export sales were depressed relative to the domestic market (see Chart 5.8). Over the last year, after sterling's depreciation, export prices have risen faster than domestic prices; export profit margins have recovered, but only to the levels of the late 1980s. However, the ratio of export prices to domestic prices remains below its average over the last two decades. These changes mean that, although the restraining influence on UK inflation of low export prices has diminished, there is unlikely to be pressure from export markets for domestic prices to rise relative to costs. As was the case after sterling's fall in 1992, margins can change significantly as a result of shocks to costs which take time to feed through to prices. But much of the effect of the pound's depreciation on costs will by now have been passed into prices.

5.4 Summary

Average sterling import prices rose between 1992 Q3 and 1993 Q3 by about the amount that the effective exchange rate fell. Commodity prices hardly increased at all, because the oil price fell. With world prices likely to increase very little on average, and uncovered interest parity suggesting the exchange rate will remain around its current level, import costs are unlikely to generate any inflationary pressure. Combined with continued low growth of unit labour costs, this means that firms' profits and margins can continue to increase without necessarily pushing up inflation. But if firms overestimate future increases in the prices of their suppliers and competitors, they are likely to set their own prices too high, with adverse consequences for inflation and long-term competitiveness.

6 Prospects for inflation

Chart 6.1
RPIX inflation outturns and projections

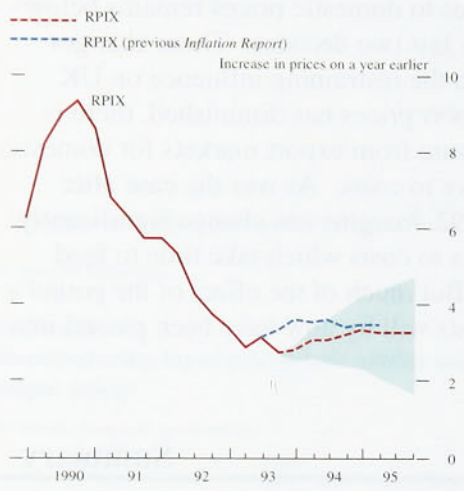
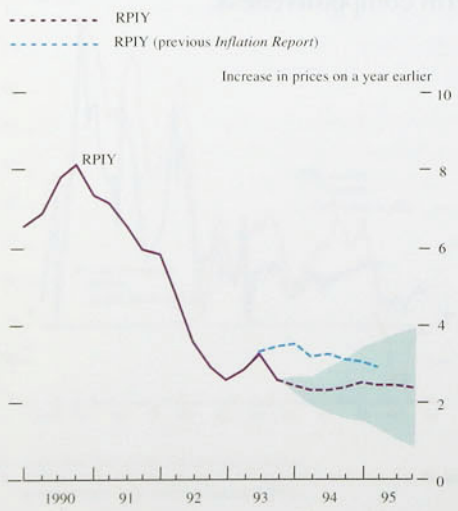


Chart 6.2
RPIY inflation outturns and projections



Monetary policy is based on an assessment of where inflation is headed some two years hence. It is this projection which is most relevant to setting monetary policy.

6.1 The Bank's medium-term inflation projection

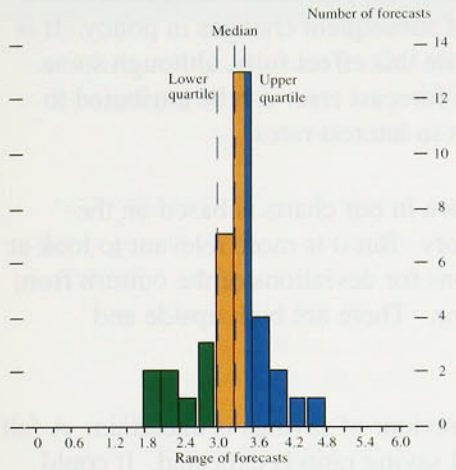
Chart 6.1 shows the Bank's central projection —the most likely outcome—for RPIX inflation to the end of 1995 (six months further out than in the last *Report*), together with the actual figures so far and the projection published in the last *Report*. They are drawn up assuming that base rates are 5½%, and that the exchange rate adjusts to maintain uncovered interest parity. The projection takes into account the news embodied in recent statistics, both for inflation itself and for money and activity. Aggregate demand and output are recovering and the output gap appears to be falling at an uncertain rate. The chart shows that a lower rate of RPIX inflation is expected than was the case in November, particularly over the first half of this year. The rate is expected to rise slightly through 1994; by the end of 1995, the central projection of RPIX inflation is just over 3%.

Chart 6.2 shows the central projection for RPIY inflation. The gap between RPIX and RPIY inflation projections is larger than in November, because of the indirect tax increases announced in the March and November 1993 Budgets. These tax increases will add about half a percentage point to RPIX inflation during 1994 and 1995. Chart 6.2 compares the Bank's projection of RPIY inflation with the projection made three months ago. It shows a larger downward revision than for RPIX, with annual RPIY inflation stabilising at around 2%–3% from the first half of this year.

What news is responsible for the revision in inflation projections this quarter? The main items have been:

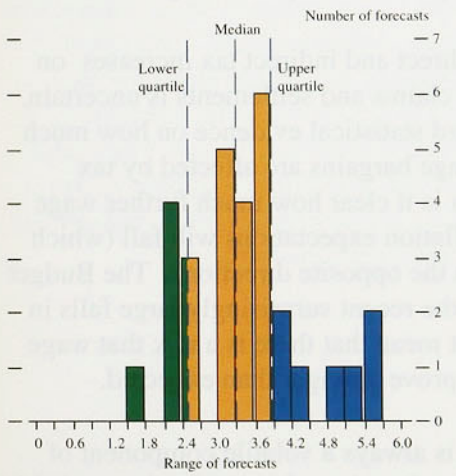
- the surprisingly low outturns for RPIX and RPIY inflation in October and November, which reflect not only greater competition among retailers, but also stronger than expected disinflationary forces in the economy as a whole;

Chart 6.3
Distribution of RPIX inflation forecasts for 1994 Q4



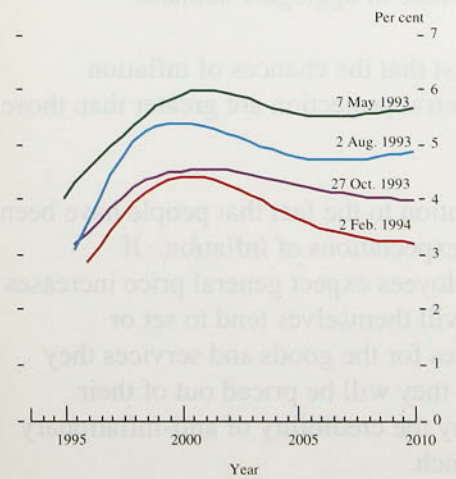
Source: Forecasts of 36 private sector organisations as of January 1994.

Chart 6.4
Distribution of RPIX inflation forecasts for 1995 Q4



Source: Forecasts of 30 private sector organisations as of January 1994.

Chart 6.5
Inflation term structure derived from gilt-edged prices



- the deflationary impact of the November Budget's tax and spending announcements in the short run;
- confirmation of the recovery in both manufacturing and total output; and
- an acceleration of monetary growth.

Taken together, these factors mean that the projection starts from a lower current level of inflation than was anticipated in November, but that underlying inflation is unlikely to fall much further. The recovery of output and employment, and the acceleration of monetary growth, are likely to reduce downward pressure on inflation. Inflationary expectations still remain above the actual inflation rates that have recently been achieved.

6.2 Private sector inflation forecasts

A survey of forecasts by organisations in the private sector indicates that expectations of future inflation have fallen further since November. The median expected inflation rate for end-1994 stands at 3¼% (Chart 6.3). Chart 6.4 shows the range of expectations at the end of 1995. The market for traditional and index-linked gilts reveals that participants now expect lower inflation over a long-term horizon than they did in November (Chart 6.5); expectations are now close to or within the government's target range over all the next fifteen years. This implies that the credibility of the new framework for monetary policy continues to increase.

6.3 Uncertainties affecting the projection

Since the February 1993 *Inflation Report*, the medium-term RPIX projections have been presented as a central forecast plus a range on either side of it. The range is calculated from the average size of past errors in forecasting the consumption price deflator since 1985. The range has now been recalculated using errors in projecting RPIX inflation itself, again since 1985. RPIX is not subject to revision and is available sooner than the consumption deflator. The forecast errors are correspondingly smaller, and this is reflected in the new range shown in Charts 6.1 and 6.2.

In an environment of low and stable inflation, forecasting inflation should become easier, so this range may paint a pessimistic picture. Indeed the range

exaggerates the uncertainty because the projections are conditional ones based on the assumption of unchanged interest rates. Some of the past forecasting errors have occurred because of subsequent changes in policy. It is not possible to isolate this effect fully, although some 10% of the average forecast error can be attributed to subsequent changes in interest rates.

The new range shown in our charts is based on the analysis of past errors. But it is more relevant to look at the economic reasons for deviations of the outturn from the central projection. There are both upside and downside risks.

- The future behaviour of savings is uncertain. A fall in the personal saving ratio is expected. It could fall further if confidence in the recovery (and an erosion of the debt overhang) is maintained; or it could stay at around its current level if the Budget measures taking effect in April damage confidence.

- The effect of direct and indirect tax increases on nominal wage claims and settlements is uncertain. There is no hard statistical evidence on how much real pre-tax wage bargains are affected by tax increases. Nor is it clear how much further wage bargainers' inflation expectations will fall (which would work in the opposite direction). The Budget measures and the recent surprisingly large falls in unemployment mean that there is a risk that wage increases will prove stronger than expected.

- Stockbuilding is always a volatile component of aggregate demand, and stocks remained remarkably low during the recent downturn. If corporate confidence continues to improve, there is a risk that a sudden increase in stockbuilding could lead to a significant increase in aggregate demand.

These factors suggest that the chances of inflation overshooting the central projection are greater than those of an undershoot.

Section 4 drew attention to the fact that people have been slow to lower their expectations of inflation. If companies and employees expect general price increases to be smaller, they will themselves tend to set or negotiate lower prices for the goods and services they provide. Otherwise they will be priced out of their markets. This is why the credibility of anti-inflationary policy matters so much.

Conclusions 7

The recent rise in headline inflation was inevitable, because it reflected earlier mortgage interest rate cuts dropping out of the 12-month comparison and higher excise duties. Over the next two months, the gap between RPI and RPIX inflation will largely disappear, with both measures likely to rise further as higher indirect taxes take effect. Nevertheless, inflation has been much lower than anticipated in the November *Report*. Measures of inflation which exclude changes in indirect taxes—such as RPIY—have fallen faster than expected and are now below 3%.

Monetary aggregates—narrow, broad and Divisia—have been rising more rapidly than at the time of the November *Report*. Output is growing at or above its trend rate. Unemployment has been falling. Taking all these factors together, the Bank's new central projection is that RPIX inflation will rise slightly during 1994 and remain steady during 1995, ending the year at over 3%. RPIY inflation is projected to stabilise at around 2%–3% from the middle of 1994.

Projections are often accompanied by a disclaimer that the state of the economy is unusually uncertain. Today there are good reasons to emphasise that point. First, it is difficult to gauge the strength of the current recovery. A significant output gap remains, but the fall in unemployment and rise in capacity utilisation suggest that it is narrowing. Second, from April this year, there will be a substantial fiscal tightening. It will reduce the PSBR in 1996/97 by around 3% of GDP and squeeze household disposable incomes by about 3% over two years or so. To the extent that these increases have already been anticipated, they will not lead to a fall in consumption later in 1994 and 1995, although they may have induced higher spending now on items such as domestic fuel that will rise in price. But, to the extent that higher taxes have not been anticipated, lower disposable income in future will restrain the growth in consumer spending. Third, some influences that have held back economic expansion may have a diminishing effect in the period ahead: the impact of continuing high levels of personal debt, the behaviour of stockbuilding, and weakness in the continental European economies. These all mean that there is considerable uncertainty

about aggregate demand in 1994. Fourth, the potential reaction of money wages to a slowdown in the growth of real take-home pay poses a risk to the combination of continuing output growth and low inflation. Attempts to restore growth in real take-home pay would, in the face of a non-accommodating monetary policy, soon lead to higher unemployment, not higher inflation.

In the Bank's view, the most likely prospect over the next two years is that output will grow at just above its trend rate and underlying inflation will remain low. Headline and RPIX inflation will, however, rise to reflect higher indirect taxes, and the latter is likely to remain in the upper half of the target range. Expectations have yet to adjust to the sharp fall in inflation which has occurred over the past two years. In these circumstances, the risks to the central projection for inflation are asymmetric—a rise in underlying inflation seems more likely than a further fall. The prospect of continuing low inflation, and a fall into the lower half of the target range, depends on an adjustment of expectations to a low-inflation world. The speed of progress to higher levels of output and employment depends on the extent to which everyone involved in decisions on saving and investment, and on wages and prices, are convinced that inflation will indeed be kept down so that they can plan in terms of real—rather than nominal—rates of return and rewards.

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