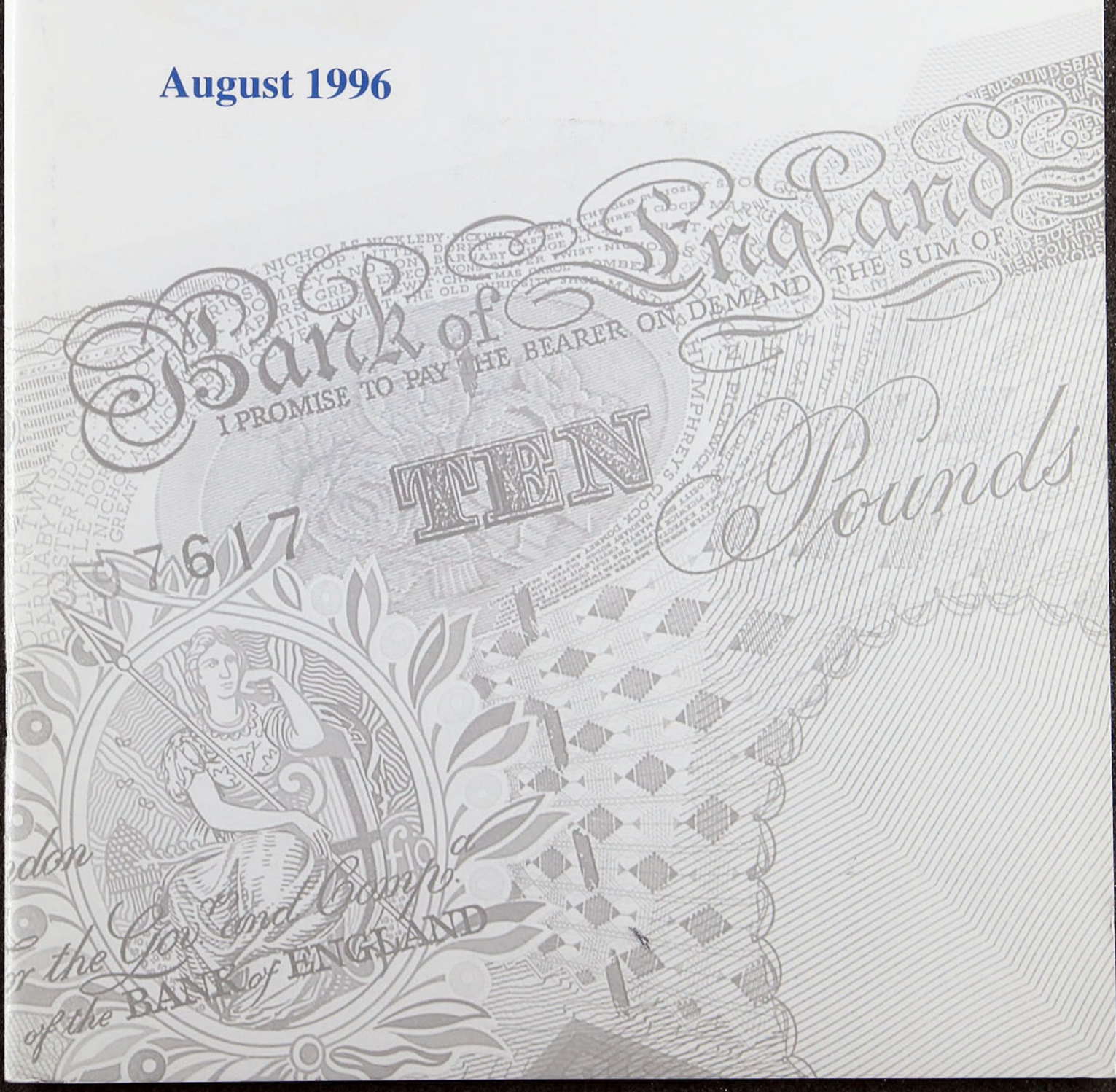
Bank of England

Inflation Report

August 1996



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Summary

Real GDP has grown at a rate of around ½% in each quarter since the beginning of 1995, a little below the long-run trend. **Spare capacity and unemployment in the economy have been exerting downward pressure on inflation**. The rises in the relative prices of imported commodities and semi-manufactures in 1994, followed by a depreciation of the nominal and real exchange rate at the beginning of 1995, led to a temporary rise in the twelve-month inflation rate. As that effect began to wear off, RPIX inflation fell slightly. **The short-term prospect is for a further fall in the inflation rate**.

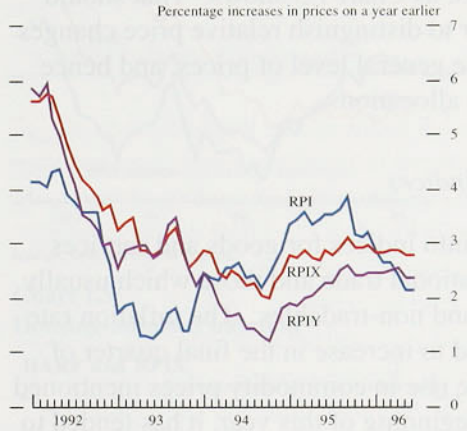
Following departure from the ERM in September 1992, a rebalancing of monetary and fiscal policy—an easier monetary and a tighter fiscal stance—led to a lower real exchange rate and a shift of resources from growth of domestic consumption to net exports, and an export-led recovery up to 1995. Over the past year, that pattern of recovery has been reversed. **Excluding stockbuilding, domestic demand, especially consumption, is growing strongly** and net trade is no longer making a significant contribution to output growth. The picture of accelerating domestic demand is reinforced by continuing rapid monetary growth and the outlook for the public finances. Nevertheless, the short-term risks to activity identified in recent *Reports*—a run-down in stocks and continuing weak demand on the Continent—held back growth in the first part of the year and have not yet disappeared.

The Bank's latest view on inflation two years ahead shows a central projection for RPIX inflation a little above 2½% and rising, with the risks more on the upside than the downside.

Of course, it is difficult to know when the upturn in money and demand growth will lead to inflationary pressures, and the major uncertainty about the central projection is the question of timing. But **the implication of the projection is that a tightening of monetary policy will be necessary at some point to achieve a better-than-even chance of keeping inflation below 2½% in the medium term**. With such a favourable short-term outlook—of faster growth and falling inflation—there is always a temptation to ignore the consequences of faster growth of money and activity for inflation until inflation itself has started to rise. By then, however, it would be too late to prevent a sharper policy correction that would be more damaging to stability than an earlier pre-emptive move.

Recent developments in inflation 1

Chart 1.1
Inflation[a]



RPIX = Retail prices index excluding mortgage interest payments.
RPIY = RPIX excluding VAT, local authority taxes and excise duty.

(a) Adjusted by the Bank of England for CSO error in underrecording aggregate price indices between February and May 1995. Other charts and tables in this *Report* that include measures of retail price inflation are similarly adjusted.

Table 1.A
Short-run measures of inflation[a]

	1995			1996		
	June	Aug.	Nov.	Feb.	Mar.	June
RPI						
Three-month	3.7	2.7	0.7	3.6	1.5	1.6
Six-month	3.8	3.2	1.7	2.2	2.2	1.6
RPIX						
Three-month	2.6	2.7	1.6	4.5	2.9	2.2
Six-month	2.9	2.6	2.1	3.0	3.3	2.6
RPIY						
Three-month	2.7	2.7	1.3	3.2	3.0	2.0
Six-month	2.8	2.7	2.0	2.2	2.4	2.5
HARP						
Three-month	1.5	1.8	2.2	3.6	3.0	5.2
Six-month	1.9	1.7	2.0	2.9	3.0	4.1
THARP						
Three-month	1.2	1.7	2.0	3.5	3.8	5.0
Six-month	1.5	1.6	1.9	2.8	3.0	4.4

Sources: ONS and Bank of England.

(a) All series are seasonally adjusted and annualised by the Bank. The seasonal adjustment of RPI and RPIX excludes taxes by multiplying the ratios of RPI to RPIY, and RPIX to RPIY by seasonally adjusted RPIY. HARP and THARP are calculated by combining seasonally adjusted RPIX and RPIY, respectively, with the Bank's estimate of the user cost of housing.

1.1 Measures of retail price inflation

RPI, RPIX and RPIY

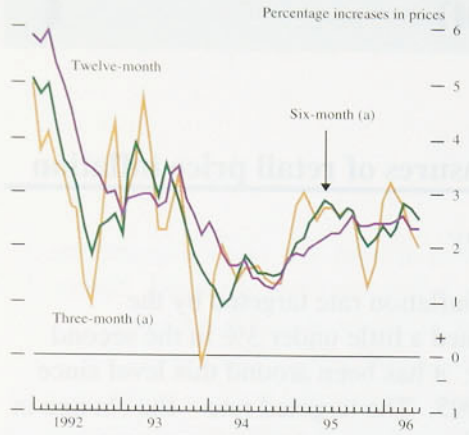
The twelve-month inflation rate targeted by the Government remained a little under 3% in the second quarter of this year; it has been around this level since the beginning of 1995. The targeted rate—the change in retail prices excluding mortgage interest payments (RPIX)—was 2.8% in June, down from 2.9% in March. The twelve-month change in RPIY (which excludes indirect taxes as well as mortgage interest payments) fell from around 2.5% in March and 2.6% in April to 2.3% in June. The headline rate (RPI) fell by more, from 2.7% in March to 2.1% in June; the component for mortgage interest payments fell by over 3%.

Chart 1.1 shows that the fall in RPIX inflation, which started in late 1990, was reversed in the fourth quarter of 1994. The relative price of imported commodities and semi-manufactures began to rise in 1994, imposing an adverse supply shock on the economy, and the effect was compounded by the depreciation of sterling in the first quarter of 1995.

Nevertheless, it looks as if the effects of the supply shocks in late 1994 and early 1995 are beginning to die away. On a three-month annualised basis, RPIX and RPIY inflation had both fallen below 2.5% by June (see Table 1.A). Measuring changes in price indices over less than twelve months gives a better indication of more recent developments in inflation, but temporary shocks to the price level make such measures more volatile, as Chart 1.2 demonstrates for RPIY. In the period covered by the chart, the standard deviation of monthly changes in the twelve-month rate is about one third of the corresponding figure for the three-month annualised rate.

UK inflation has been much lower over the past three years than its average over the past 30 years, of 8%. But this has been against a background of low inflation in most other industrialised countries too. Such international comparisons show the United Kingdom's recent performance to be less remarkable: in June

Chart 1.2
RPIY measure of inflation



(a) Figures are seasonally adjusted by the Bank, and annualised.

Table 1.B
Headline inflation in the G7(a)

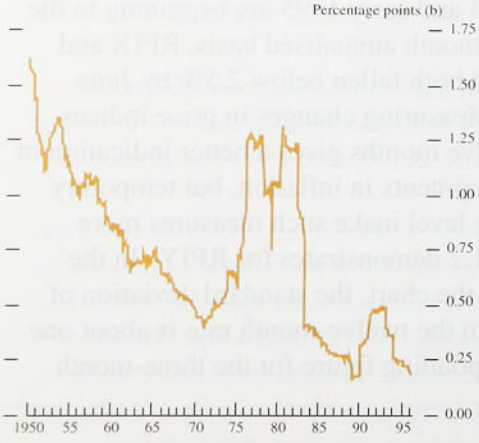
Average twelve-month percentage changes over the period shown

	Canada	France	Germany (b)	Italy	Japan	United Kingdom (c)	United States
1970s	7.4	8.9	4.9	12.7	9.1	12.6	7.1
1980s	6.5	7.4	2.9	11.3	2.5	7.5	5.6
1990s (d)	2.6	2.4	1.7	5.2	1.6	4.3	3.5
June 1996	1.4	2.3	1.4	4.0	—	2.1	2.8

Sources: ONS and Bank for International Settlements.

(a) Group of seven largest industrialised economies.
(b) Pan-German prices used after January 1991.
(c) RPI.
(d) From January 1990 to June 1996.

Chart 1.3
Volatility of twelve-month inflation rates(a)



(a) RPIX from 1974, RPI before 1974.
(b) For each month, the standard deviation of the month-to-month changes over the preceding three years is plotted.

inflation was lower in three other countries in the G7 (see Table 1.B).

Over the five years to June 1996, RPIX rose by around 17%. That was the lowest increase over a five-year period for nearly 30 years. The variability of inflation from month to month has also fallen to around its lowest since the late 1940s, as Chart 1.3 shows. That should have made it easier to distinguish relative price changes from changes in the general level of prices, and hence improved resource allocation.

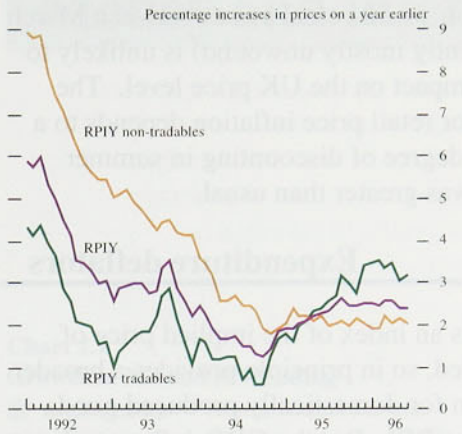
Other retail price indices

RPIY can be split into indices for goods and services which enter international trade and those which usually do not: tradables and non-tradables. The inflation rate for tradables started to increase in the final quarter of 1994, reflecting the rise in commodity prices mentioned above; since the beginning of this year, it has tended to fall (see Chart 1.4). The inflation rate for non-tradables has been steadier, varying by less than 0.4 percentage points from December 1994. Its divergence from tradables inflation after sterling's depreciation in spring 1995 shows that the change in the exchange rate did not have significant second-round effects on domestically set prices and wages.

The Bank has constructed versions of RPIX and RPIY which reflect owner-occupied housing costs: the HARP and THARP indices respectively.(1) The twelve-month HARP and THARP measures of inflation have been lower than the corresponding RPIX and RPIY rates since the end of 1989. But house prices began to rise last summer, closing the gap (see Chart 1.5); indeed, according to three-month measures (see Table 1.A), HARP and THARP inflation rates overtook RPIX and RPIY rates in March and February respectively. As the former are more comprehensive indicators of inflationary pressure, their increases give some cause for concern. House prices are more volatile than many other prices, because housing provides both immediate services and is also an investment which depends on expectations about the future. HARP and THARP indices reflect the demand for owner-occupied housing as an asset, so they react to expectations of future demand for housing services, providing an early warning of the impact of higher nominal demand on prices.

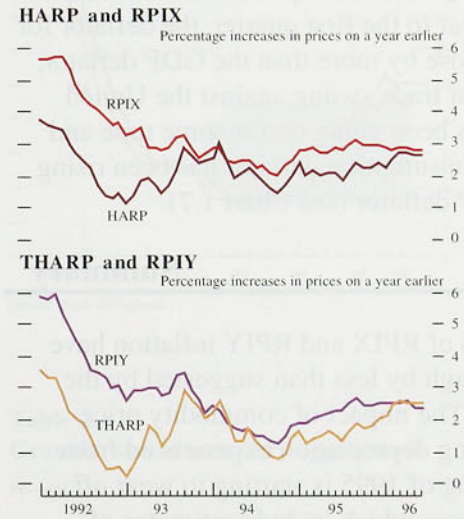
(1) The HARP and THARP indices use Halifax Building Society house price data.

Chart 1.4
RPIY inflation by sector



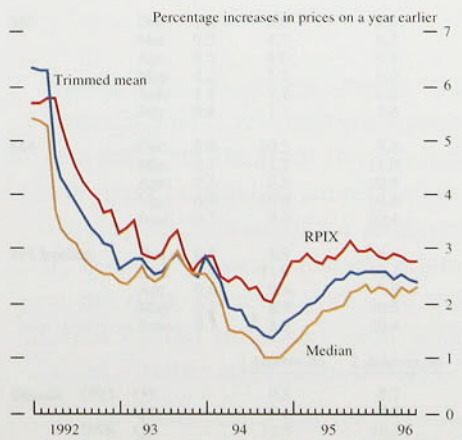
Sources: ONS and Bank of England.

Chart 1.5
Housing-adjusted inflation



Sources: ONS and Bank of England.

Chart 1.6
Measures of underlying inflation



Sources: ONS and Bank of England.

Even when firms and consumers expect the general price level to rise at a steady rate, the irregular revision of particular prices can lead to volatility in measured inflation. Changes in relative prices can affect the general price level temporarily if adjusting individual prices is costly. That makes it difficult to interpret the monthly price statistics.

To deal with that problem the Bank calculates two measures of retail price inflation—the median and 'trimmed mean' rates—which exclude the impact of particularly large relative price changes. One-month inflation rates are calculated for 77 components of RPIX. These rates are then weighted according to the corresponding component's weight in RPIX and ranked by size. The mean of the resulting distribution of price increases is the increase in RPIX in the month. The Bank's trimmed-mean measure is the mean of the distribution after excluding both the largest and smallest 15% of price changes. The trimmed mean and the median are shown in Chart 1.6. As expected, these measures of twelve-month inflation tend to be less volatile than RPIX; they also tend to be lower, because the distribution of price increases is skewed upwards (hence the mean lies above the median). One drawback of such measures is that they ignore the large price changes which are an early warning of a step change in inflation.

Recent price shocks

Shocks to the supply of, or demand for, particular goods and services can affect the general price level and hence, temporarily, the measured inflation rate. Disaggregating the retail prices index can help to identify such shocks. In the second quarter, concern over the safety of beef led to a fall in the supply of, and demand for, UK beef and a rise in demand for other meat products. The price of beef fell by 2.5% between March and April, but the price index for all meat products (including beef) increased by 2.7%. The net effect was an unexpected step increase in the general price level of 0.1%. In May and June, meat prices rose by about 1% and ½% respectively, broadly in line with seasonal norms, so the Bovine Spongiform Encephalopathy (BSE) effect appears to have come through fully in April and persisted thereafter.

Excluding meat, twelve-month food price inflation has been falling, partly because of better harvests and lower paper and metals prices (two main elements of packaging costs). Also, the rise in seasonal food prices in May this year was much lower than the seasonal norm. Several

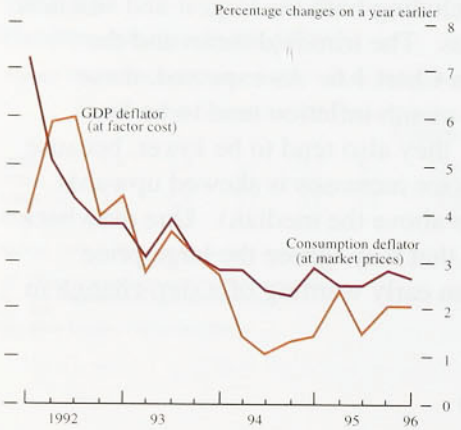
Table 1.C
Changes in expenditure deflators (market prices)

Percentage changes on a year earlier

	Consumption	Investment	Government	Domestic demand (a)	Exports	Imports	GDP (b)
1994	2.5	2.2	2.4	2.5	0.8	2.9	1.6
1995	2.6	6.3	2.4	3.1	4.7	7.3	1.8
1996 Q1	2.6	5.6	1.6	2.7	3.5	4.9	2.0
Seasonally adjusted quarterly percentage changes							
Q4 on Q3	0.6	0.9	0.3	0.6	1.0	0.7	0.5
Q1 on Q4	0.9	-0.5	0.4	0.6	0.4	0.2	0.6

(a) Domestic demand also includes the value of the physical increase in stocks and work in progress, which does not appear separately in this table.
(b) At factor cost.

Chart 1.7
Deflator-based measures of inflation



important administered prices were put up in April; council taxes, for example, rose by 7.4% on average. The rapid increase in world cereal prices between March and May (subsequently mostly unwound) is unlikely to have a significant impact on the UK price level. The short-run outlook for retail price inflation depends to a large extent on the degree of discounting in summer sales; last year, it was greater than usual.

1.2 Expenditure deflators

The GDP deflator is an index of the implied price of domestic value added, so in principle provides a broader measure of inflation for domestically produced goods and services than the RPI. But the GDP deflator is less timely, less frequent, and prone to revision. As Table 1.C shows, it rose by 0.6% in 1996 Q1, compared with 0.5% in 1995 Q4 (revised up from the first estimate of 0.1%). In the year to the first quarter, the deflator for domestic demand rose by more than the GDP deflator, because the terms of trade swung against the United Kingdom. That has been going on for some time and explains why the consumption deflator has been rising faster than the GDP deflator (see Chart 1.7).

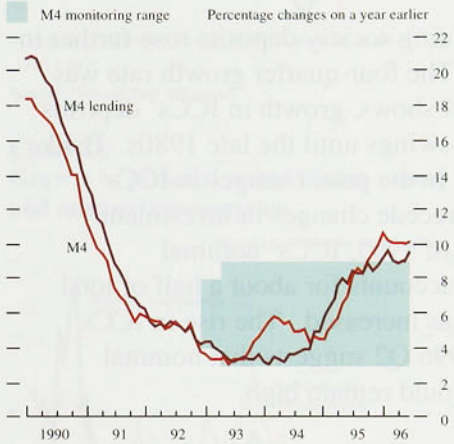
1.3 Summary

Short-run measures of RPIX and RPIY inflation have begun to fall, although by less than suggested by the headline RPI rate. The impact of commodity price increases and sterling depreciation experienced from around the beginning of 1995 is starting to wear off. However, price indices which include estimates of owner-occupied housing costs are beginning to pick up.

Money and interest rates 2

Broad money and lending growth were broadly unchanged during the first half of the year. Borrowing by industrial and commercial companies (ICCs) and consumer credit were still strong; personal sector borrowing for housing rose a little in the second quarter. Broad money trends still point to rising nominal demand growth this year and next.

Chart 2.1
Growth in M4 and M4 lending



Source: Bank of England.

Table 2.A
Growth rates of monetary aggregates(a)

Per cent

		1 month	3 months (b)	6 months (b)	12 months
Notes and coin	Dec.	0.6	6.4	7.0	5.9
	Mar.	0.4	6.4	6.4	6.3
	Apr.	0.5	7.0	6.3	6.3
	May	0.5	5.7	6.4	6.2
	June	0.9	7.9	7.1	7.0
	July	0.6	8.6	7.8	7.1
M0	Dec.	1.0	8.0	8.6	5.9
	Mar.	0.5	4.7	6.3	5.5
	Apr.	0.5	8.0	6.8	5.7
	May	0.2	5.2	6.0	6.3
	June	1.1	7.7	6.2	7.4
	July	0.4	7.1	7.6	7.1
M4	Dec.	0.8	10.3	9.8	9.8
	Mar.	1.1	11.7	11.0	9.9
	Apr.	0.6	8.8	10.8	10.0
	May	0.9	10.8	10.6	10.0
	June	0.7	9.0	10.4	10.1
M4 lending	Dec.	0.8	8.9	8.6	8.7
	Mar.	0.7	11.9	10.4	9.0
	Apr.	0.6	9.4	9.9	8.8
	May	0.8	8.9	10.6	9.0
	June	0.7	8.9	10.4	9.5

			1 quarter (b)	2 quarters (b)	4 quarters
Divisia	1995	Q3	9.8	8.7	6.8
		Q4	9.6	9.7	8.5
	1996	Q1	11.5	10.5	9.6
		Q2	9.2	10.4	10.0

Source: Bank of England.

(a) Seasonally adjusted.
(b) Annualised.

2.1 Monetary aggregates

Broad money

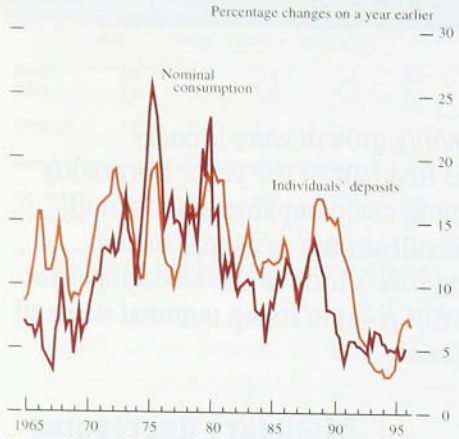
The growth in broad money (M4) remained high in the second quarter. Its twelve-month growth rate, shown in Chart 2.1, was still above the Government's monitoring range in June. The three-month annualised growth rate was 9.0% in June, lower than in March and December (see Table 2.A). As the previous *Report* explained, the introduction of the gilt repo market at the beginning of the year led to a rise in the demand for, and supply of, money with no direct implications for economic activity. Adjusting for the estimated effect of gilt repos, the twelve-month rate of M4 growth was around the top of its monitoring range. By contrast with Q1, gilt repos included in M4 fell slightly in Q2.

Personal sector

Individuals' bank and building society deposits grew quickly in 1995 and in the first half of 1996. The annual growth rate, shown in Chart 2.2, rose from less than 3% in 1994 to 6.8% in 1996 Q2. As the chart shows, in the past, growth in deposits was closely linked with growth in nominal consumer spending. But, between 1994 Q4 and 1995 Q4, deposits rose relative to nominal consumption. That build-up of deposits is consistent with the view that consumer spending will accelerate in the second half of 1996 and in 1997.

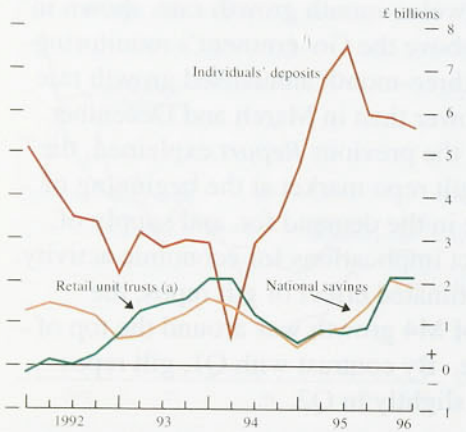
Individuals also increased their holdings of other, less liquid, forms of financial assets, as Chart 2.3 shows. Net flows into retail unit trusts and national savings products in Q2 were more than twice as high as in the same period last year. Three main factors lay behind these increased flows into less liquid non-M4 assets. First, total personal disposable income growth has increased:

Chart 2.2
Growth in individuals' deposits and nominal consumption



Sources: ONS and Bank of England.

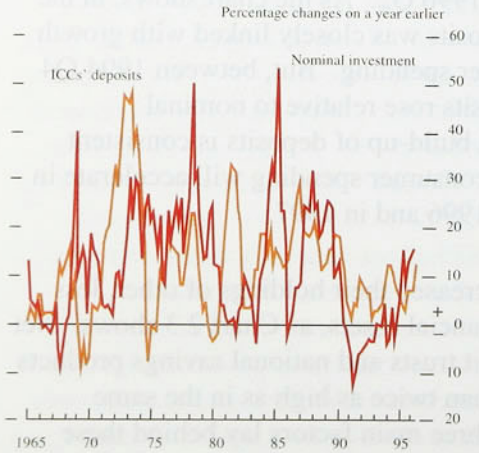
Chart 2.3
Retail financial inflows



Sources: Association of Unit Trusts and Investment Funds and Bank of England.

(a) Not seasonally adjusted.

Chart 2.4
Growth in ICCs' deposits and nominal investment



Sources: ONS and Bank of England.

it averaged 1.7% a quarter between 1995 Q1 and 1996 Q1, compared with 1.1% a quarter in the previous two years. Second, the first tranche of Tax Exempt Special Savings Accounts (TESSAs) matured in the early part of this year. Most of the maturing capital was probably placed in follow-up TESSAs; but the tax-free interest could not be reinvested in them. Third, low interest rates on deposit accounts probably encouraged people to invest in potentially higher-yielding instruments such as unit trusts and national savings.

Industrial and commercial companies (ICCs)

ICCs' bank and building society deposits rose further in the second quarter. The four-quarter growth rate was 12.1%. As Chart 2.4 shows, growth in ICCs' deposits was subject to large swings until the late 1980s. Bank research shows that, in the past, changes in ICCs' deposits tended to precede changes in investment.(1) Since the beginning of 1995, ICCs' nominal investment—which accounts for about a half of total fixed investment—has increased. The rise in ICCs' deposit growth in 1996 Q2 suggests that nominal investment growth could remain high.

Other financial institutions (OFIs)(2)

In the first quarter, OFIs' deposits rose sharply because of the introduction of the gilt repo market in January. In the second quarter, OFIs' deposits rose by just under 3%, with little effect from gilt repos. The second quarter rise was the lowest since the end of 1994. But OFIs' deposits are volatile from quarter to quarter: it is too soon to suggest that the sharp rise in their deposits over the past year and a half is coming to an end.

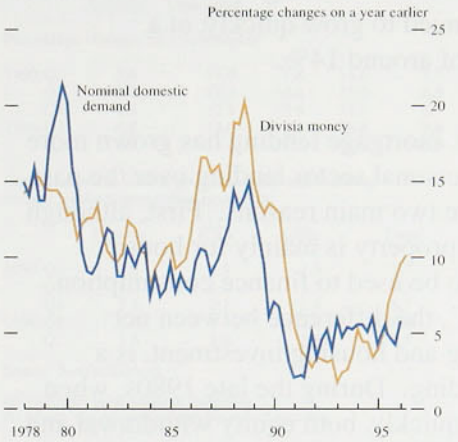
Divisia money

The Divisia measure of money aggregates the various components of M4, weighting them by their estimated liquidity. High-interest deposit accounts are often less liquid than low-interest accounts, because of restrictions or charges on the immediate withdrawal of money, and so have less weight in the Divisia measure. Divisia money rose by 2.2% in the second quarter, with the four-quarter growth rate rising further to 10%. Chart 2.5 shows how growth in Divisia money has usually been

(1) See Astley, M S and Haldane, A G (1995), 'Money as an indicator', *Bank of England Working Paper No 35*, July.

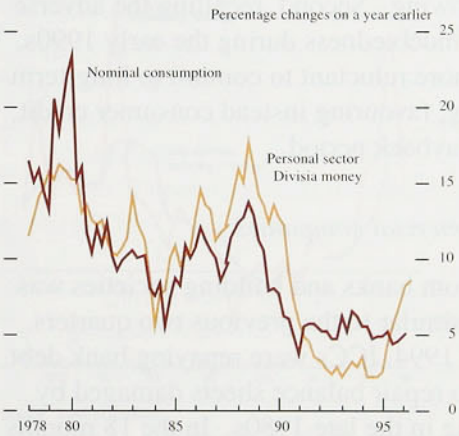
(2) Looking ahead to the third quarter, the establishment of Equitas is likely to have an impact on the sectoral breakdown of M4 and, possibly, M4 lending. Equitas will reinsure the liabilities of Lloyd's syndicates for business in 1992 and earlier.

Chart 2.5
Growth in Divisia money and nominal domestic demand



Sources: ONS and Bank of England.

Chart 2.6
Growth in personal sector Divisia money and nominal consumption



Sources: ONS and Bank of England.

closely, but not precisely, related to growth in nominal demand. Between 1992 and mid-1995, Divisia grew less quickly than nominal demand. In contrast, over the past year, while Divisia money growth picked up, nominal domestic demand growth remained steady at around 5½% in the year to Q1. Part of the recent strength of Divisia money may represent a recovery from that earlier weakness. Overall though, the continued strength of Divisia is consistent with the Bank's central view that nominal demand will accelerate later this year and next.

Personal sector Divisia money grew by 1.9% in the second quarter, and 8.5% over the year. Growth in personal sector Divisia has been closely related to nominal consumption growth in the past, as Chart 2.6 shows. During the early 1990s, nominal consumption grew more quickly than personal sector Divisia, but over the past year Divisia growth has exceeded consumption. In the first quarter, nominal consumption grew by 1.8%, its highest rate for 2½ years: that could be early evidence of the build-up in personal sector liquidity leading to higher consumer spending.

Narrow money

Narrow money growth picked up a little in June and July; the rise in June coincided with the Euro '96 football tournament. The twelve-month growth rate of narrow money, 7.1% in July, has been above the Government's monitoring range of 0%–4% for the past three and a half years. Falling interest rates and low inflation have reduced the opportunity cost of holding cash, partly explaining the recent strong growth of narrow money.

2.2 Credit demand

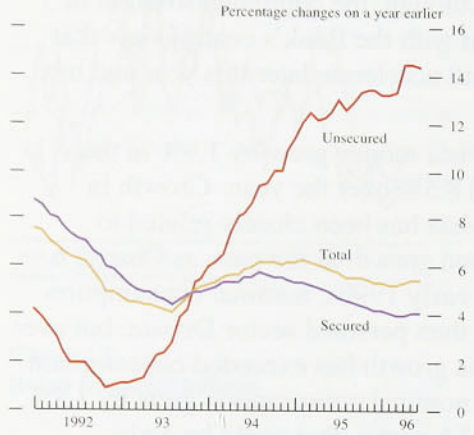
M4 lending—bank and building society lending to the non-bank private sector—was £15.9 billion in Q2, compared with average quarterly lending of £14.4 billion throughout 1995. The twelve-month growth in bank and building society credit was 9.5% in June, compared with 8.7% at the end of 1995.

Personal sector

Total lending to individuals, which includes lending from institutions other than banks and building societies, continued at around its rate of the past year. Its twelve-month growth rate was 5.4% in June. Lending secured on property, which makes up about 85% of lending to individuals, continued to grow slowly. By

contrast, short-run measures picked up, in line with rising turnover in the housing market in the second quarter. Consumer credit—lending which is not secured on property—continued to grow quickly, at a twelve-month rate of around 14%.

Chart 2.7
Growth rates of individuals' borrowing



Source: Bank of England.

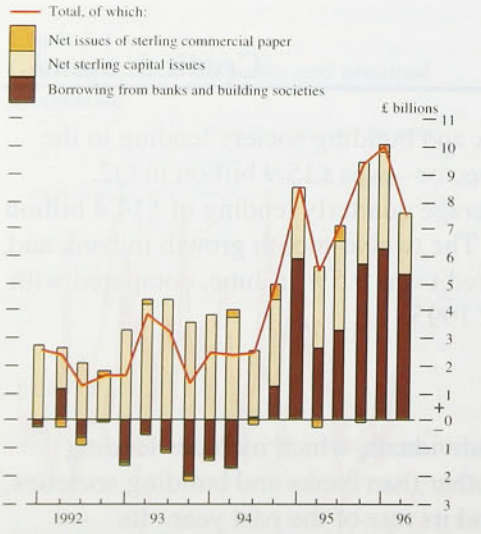
Note: Includes borrowing from institutions other than banks and building societies.

As Chart 2.7 shows, mortgage lending has grown more slowly than other personal sector lending over the past 2½ years. There are two main reasons. First, although lending secured on property is mainly for house purchase, it can also be used to finance consumption. 'Equity withdrawal', the difference between net mortgage borrowing and housing investment, is a measure of this lending. During the late 1980s, when consumption grew quickly, both equity withdrawal and consumer credit growth were strong. Over the past three years, however, the subdued housing market has meant that equity withdrawal has been negligible, so consumption has been financed largely by income or by non-mortgage borrowing. Second, recalling the adverse experience of high indebtedness during the early 1990s, people have been more reluctant to commit to long-term mortgage borrowing, favouring instead consumer credit, which has a short payback period.

Industrial and commercial companies

ICCs' borrowing from banks and building societies was £5.4 billion in Q2, similar to the previous two quarters. Until the middle of 1994, ICCs were repaying bank debt, as they attempted to repair balance sheets damaged by the rise in borrowing in the late 1980s. In the 18 months to June 1996, ICCs' M4 borrowing totalled around £29 billion.

Chart 2.8
ICCs' quarterly sterling financing



Source: Bank of England.

Banks and building societies are not the only source of ICCs' finance. At the end of 1995, about a quarter of ICCs' sterling debt was with capital markets—in the form of bonds, notes and commercial paper. Chart 2.8 shows the recent profile of ICCs' sterling financing, both debt and equity. Over the past two years, ICCs' bank borrowing has increased relative to capital market finance—partly because of lower short-term interest rates, to which much bank borrowing is linked, and also because of an increased willingness of banks to lend. In the first half of the year, ICCs' sterling bank and building society borrowing was £11.7 billion, compared with £5.7 billion raised from capital markets.

Strong borrowing by ICCs over the past year and a half has been linked to increased mergers and acquisitions.

Table 2.B
Growth in bank and building society lending

	Persons (a)		ICCs	OFIs	Total
	Secured	Unsecured			
Percentage changes on a year earlier					
1995 Q2	5.6	11.0	7.8	14.6	**7.7**
Q3	5.2	11.4	10.4	15.8	**8.3**
Q4	4.9	12.8	13.9	14.9	**8.7**
1996 Q1	4.8	13.0	13.7	16.8	**9.0**
Q2	4.9	13.6	15.5	16.5	**9.5**

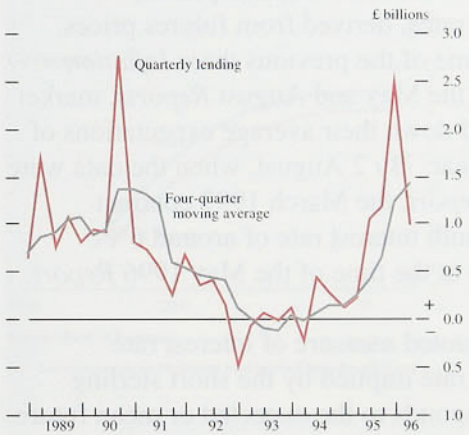
Contributions to annual growth in bank and building society lending (percentage points) (b)

	Persons	ICCs	OFIs	Total
1995 Q2	3.8	1.5	2.3	**7.7**
Q3	3.7	2.0	2.5	**8.3**
Q4	3.6	2.7	2.4	**8.7**
1996 Q1	3.5	2.7	2.8	**9.0**
Q2	3.6	3.0	2.8	**9.5**

Source: Bank of England.

(a) Excludes unincorporated businesses.
(b) Rows may not sum to totals because of rounding.

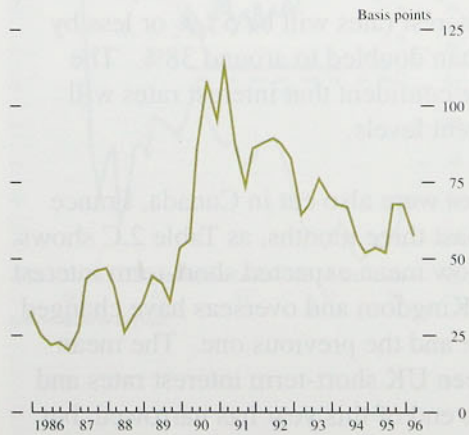
Chart 2.9
Bank lending to leasing companies(a)



Source: Bank of England.

(a) Data are not seasonally adjusted.

Chart 2.10
International syndicated loan spreads to ICCs(a)



Sources: IFR Ommbase and Bank of England.

(a) Spreads over Libor weighted by loan size. Four-quarter moving average.

Mergers and acquisitions in the United Kingdom by UK companies totalled £32.1 billion in 1995, about four times higher than in 1994. Nearly 80% of this merger and acquisition activity was financed by cash—either through bank borrowing or drawing down deposits. And in the first half of this year, activity was similar to that in 1995.

Other financial institutions

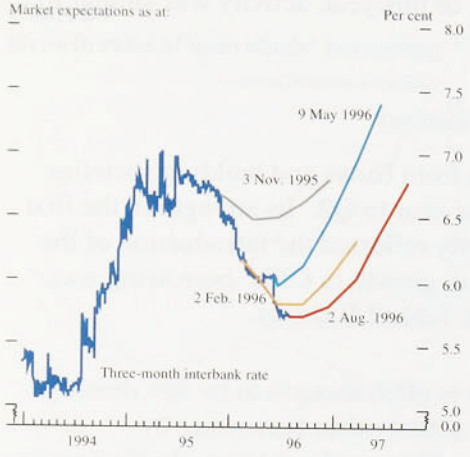
Borrowing by OFIs from banks and building societies rose by 16.5% in the year to Q2. Its strength in the first half of this year partly reflected the introduction of the gilt repo market. But growth in OFIs' borrowing was high in 1995 too, as Table 2.B shows.

Borrowing by OFIs is often thought to be less directly linked to economic activity than borrowing by individuals or ICCs. That need not be so. In the year to the second quarter, about a quarter of OFIs' borrowing was accounted for by leasing companies. Chart 2.9 shows how bank lending to leasing companies has increased since the beginning of 1995. And, according to data collected by the Finance and Leasing Association, gross lending by leasing companies to finance spending on plant and machinery rose by about a quarter last year, and rose further in the first three months of 1996. So some of the strength in OFIs' borrowing may be linked directly to higher planned investment by ICCs.

2.3 Supply of credit

The supply of credit is determined not only by the demand for it but also by banks' and investors' willingness to lend. Lending spreads are one measure of this: falling spreads indicated that banks became more willing to lend over the past few years. Chart 2.10 shows average spreads over Libor paid by ICCs on loans from international bank syndicates. Spreads on loans made solely by UK banks are not readily available, but are likely to follow similar trends: separate data, collected for the Bank's Representative Interest Rate survey, suggest that the gap between lending and deposit rates for ICCs fell over the year to 1996 Q1. As the chart shows, spreads were low in the expansion of the late 1980s, but widened in 1990 and early 1991 as banks retrenched and sought to improve their asset quality. From about mid-1991, spreads narrowed as banks' balance sheets improved and competition increased, especially for high-quality corporate borrowers.

Chart 2.11
Sterling three-month interest rate expectations[a]



Sources: LIFFE and Bank of England.

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

Table 2.C
Changes in official and key interest rates[a]

In chronological order

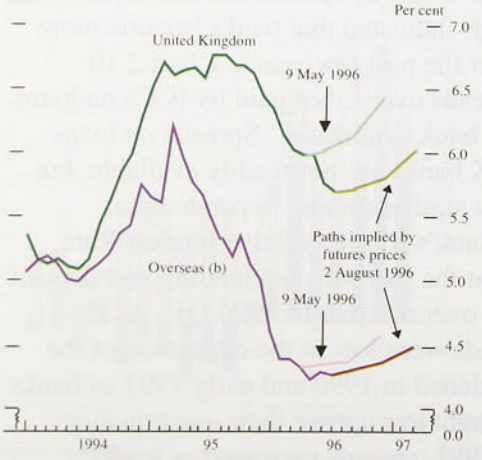
Per cent per annum

Country	Interest rate	Date	Change (basis points)	Change to:
France	Intervention rate	6 June	-10	3.60
United Kingdom	Base rate	6 June	-25	5.75
Canada	Bank rate	19 July	-25	4.75
Italy	Discount rate	23 July	-75	8.25
	Advances rate	23 July	-75	9.75
France	5–10 day repo rate	1 August	-15	4.75

Sources: Datastream and Telerate.

(a) Changes, in the G7 countries, greater than or equal to ten basis points since the May *Inflation Report*.

Chart 2.12
Sterling and overseas three-month interest rate expectations[a]



Sources: Bank for International Settlements, Financial Times, LIFFE and Bank of England.

(a) Based on a combination of interest rate futures contracts.
(b) Trade-weighted interest rates in the major six overseas economies.

Banks probably became more willing to lend to retail customers too. Between July 1995 and July 1996, average variable mortgage rates fell by about 1.3 percentage points; over the same period official interest rates were cut by one percentage point, starting in December. So personal sector borrowers benefited by more than the cut in official interest rates implied.

2.4 Interest rates and the exchange rate

Short-term interest rates

Official short-term interest rates in the United Kingdom were cut by 25 basis points on 6 June. The cut had not been discounted in the financial markets: the day before the cut, the short sterling futures market suggested that the next move in interest rates would be up.

Chart 2.11 compares the latest implied path of short-term interest rates, derived from futures prices, with those at the time of the previous three *Inflation Reports*. Between the May and August *Reports*, market participants revised down their average expectations of interest rates this year. By 2 August, when the data were finalised for this *Report*, the March 1997 contract implied a three-month interest rate of around 6% compared with 7% at the time of the May 1996 *Report*.

The most widely quoted measure of interest rate expectations is the rate implied by the short sterling future. That corresponds to the expected or mean future interest rate. But it is also possible to use option prices to derive the market's view of the probability distribution of future interest rates, as the box on pages 16–17 explains. As Chart C in the box shows, between the May and August *Reports*, the probability—implied by options prices—that interest rates will be higher than 6½% by March next year has fallen. And the probability that three-month interest rates will be 5¾% or less by next March more than doubled to around 38%. The market is now more confident that interest rates will remain around current levels.

Official interest rates were also cut in Canada, France and Italy over the past three months, as Table 2.C shows. Chart 2.12 shows how mean expected short-term interest rates in the United Kingdom and overseas have changed between this *Report* and the previous one. The mean expected gap between UK short-term interest rates and overseas rates at the end of this year has narrowed, but UK and world rates are expected to rise in the short term.

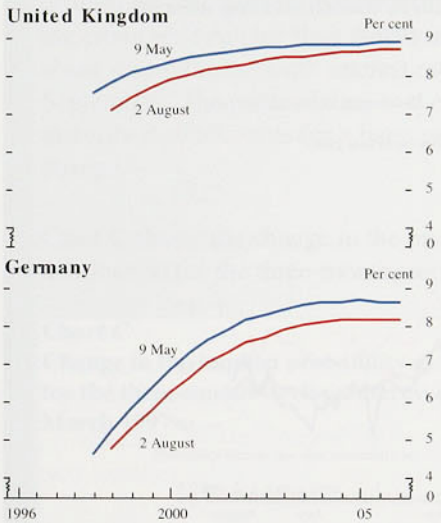
Table 2.D
Implied nominal forward interest rates[a]

	February *Report*	May *Report*	2 August
Germany	8.2	8.6	8.0
United Kingdom	8.6	8.8	8.7
United States	6.6	7.4	7.1

Source: Bank of England.

(a) Six-month annualised interest rates, ten years ahead.

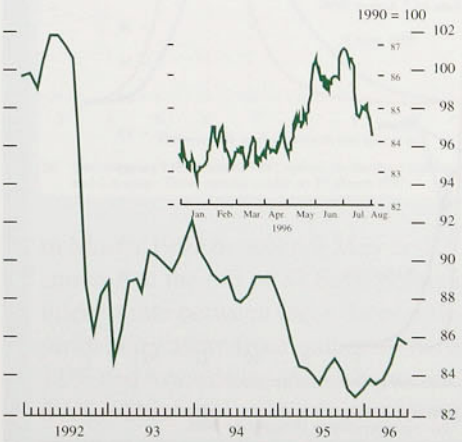
Chart 2.13
Implied nominal forward interest rates[a]



Source: Bank of England.

(a) Six-month annualised interest rates implied from the yield curve.

Chart 2.14
Sterling effective exchange rate



Source: Bank of England.

Long-term interest rates

Long-term interest rates in the United Kingdom fell by a little more than short-term rates over the past three months. So the yield curve has shifted down. A change in long-term interest rates can be interpreted as a change in the expected path of short-term interest rates, assuming that inflation and real interest rate risk premia are unchanged. The fall in long-term rates since the previous *Report* means that the market expects that short-term interest rates in the United Kingdom will now be lower *on average*—though not necessarily at all points—over the next ten years. From the yield curve, it is possible to calculate the implied levels of short-term interest rates at various points in the future. These show that short-term rates are expected to be lower in the near term than at the time of the May *Report*, but the level expected in ten years' time is little changed, as Table 2.D and Chart 2.13 show.(1)

The gap between ten-year gilt and bund yields narrowed by around 20 basis points to 156 basis points between the May and August *Reports*. So the bond markets still expect UK short-term interest rates to be higher on average than those in Germany over the next ten years. In part, these expectations reflect different short-term cyclical positions. Looking at longer-term nominal implied forward rates avoids that problem. The markets expect the level of nominal short-term interest rates to be closer in ten years' time than they are now in the two countries, as Table 2.D shows. In other words, the gap between ten-year gilt and bund yields is mainly due to different views about interest rates in the short run. The gap between interest rate expectations over the short run narrowed (see Chart 2.13): the UK implied forward interest rate curve shifted down by more than the German curve. But, as the table shows, the gap between UK and German short rates ten years ahead rose between the May and August *Reports* from 20 to about 70 basis points.

The exchange rate

The sterling effective exchange rate appreciated sharply in late May and towards the end of June, but later depreciated, closing at 84.1 on 2 August, 0.4% lower than at the time of the May *Report*. Chart 2.14 puts recent movements in a longer-term context.

(1) Expectations of future short-term interest rates can be calculated from the yield curve. For example, comparing the current ten-year interest rate with the rate for ten years and six months, it is possible to calculate an implied six-month annualised interest rate for ten years ahead. An article in the August *Quarterly Bulletin* reviews expected interest rate convergence between G7 countries.

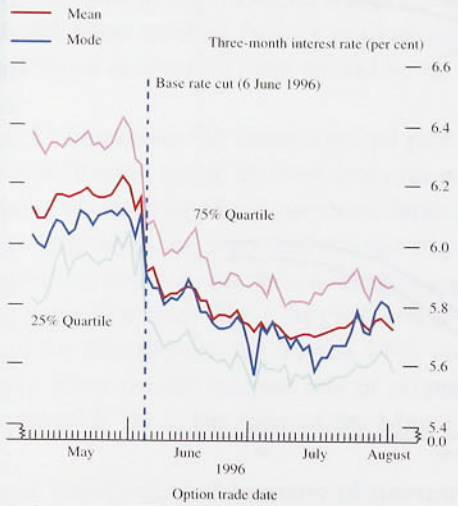
Short-term interest rates in the United Kingdom and Germany: estimating market expectations

Market expectations of short-term interest rates provide policy-makers with useful information. Interest rate futures and bond markets (from which implied forward interest rates can be derived) convey information only on market participants' mean, or average, expectation for interest rates in the future—they reveal nothing about the probabilities that the market attaches to other possible outcomes (or risks) either side of the mean. Those probabilities may provide additional important information—for example, about whether the market attaches relatively high probabilities to the short-term interest rate being either sharply higher or sharply lower than the present level in the near term.

Information on the market's complete probability distribution for a future short-term interest rate is implicit in options prices. The prices at which options trade contain information about the probabilities the market attaches to future events. So the price of an interest rate future can be used to assess the market's *mean* expectation of that interest rate when the contract expires. But options on that future can be used to assess the probabilities attached by the market to *a range of outcomes* for that interest rate when the options expire.(1) Imagine an option that gives its holder the right to buy an interest rate future at a particular price—the exercise price—and on a particular date in the future. Now imagine a similar option with a slightly higher exercise price. The difference in the price of these two options reflects the value attached to the ability to exercise the options when the price of the underlying future lies between the two exercise prices. That in turn depends on the probability of the underlying futures price lying in this interval.

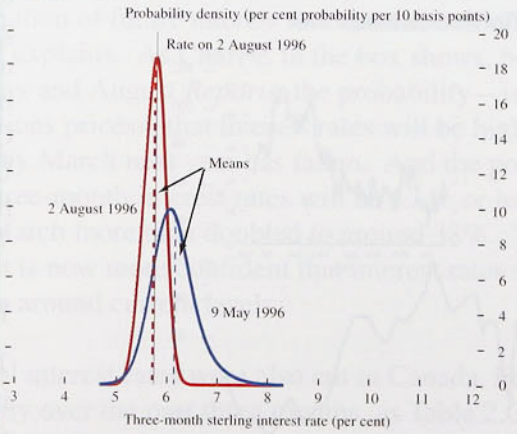
The charts below show probability distributions(2) for short-term interest rates at various future dates. They are implied by options on the LIFFE short sterling future and the euromark future.(3) The information contained in implied distributions can be illustrated by various summary statistics. For example, Chart A shows how the mean, mode, and the lower and upper quartiles of the probability distribution for the three-month sterling interest rate in September 1996 changed between 9 May and 2 August (when the data were finalised for the May and August *Inflation Reports*).(4) Chart B shows the probability distributions for both dates.

Chart A
Implied probability distribution summary statistics for the three-month sterling interest rate in September 1996(a)



(a) Derived using LIFFE September 1996 options on the short sterling future.

Chart B
Change in the implied probability distribution for the three-month sterling interest rate in September 1996(a)



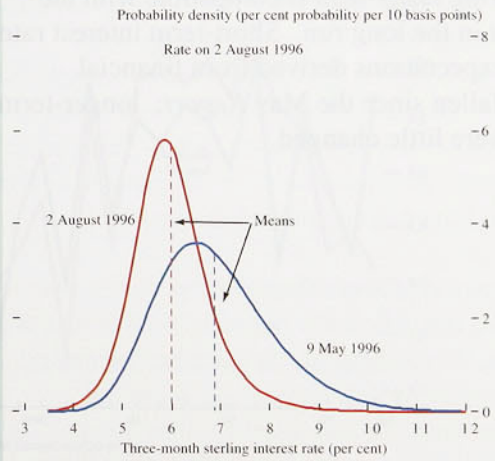
(a) Derived using LIFFE September 1996 options on the short sterling future, as at 9 May and 2 August. These options expire on 18 September 1996.

(1) For details see Bahra, B (1996), 'Probability distributions of future asset prices implied by option prices', *Bank of England Quarterly Bulletin*, August, pages 299–311.
(2) The distributions derived are for a representative risk-neutral investor; so if market participants are risk averse, the estimated distributions may differ from 'true' market distributions.
(3) The left axes of Charts B-D depict probability density. This is a measure of the frequency with which events occur. The area under a probability distribution over a given range of possible outcomes gives the probability of the eventual outcome being in that range. Since probabilities must sum to 100%, the total area under the distribution must be 100%. On the charts, the probability density associated with a given future interest rate is approximately equal to the probability of the outcome lying in a corridor of five basis points either side of that rate.
(4) The mean is the average expected value of the three-month rate in the future, while the mode is the most likely value. The lower quartile has 25% of the distribution below it and the upper quartile has 75% of the distribution below it. The gap between the quartiles is a measure of uncertainty known as the interquartile range.

Chart A shows that the cut in official interest rates of 25 basis points on 6 June 1996 resulted in a fall in the mean three-month interest rate for September of about the same amount. But, at the same time, the gap between the mean and mode of the probability distribution closed, suggesting that there was a lesser degree of asymmetry in market expectations after the cut than before. This is also evident in Chart B, which shows that the decrease in asymmetry between the probability distribution at the time of the May *Inflation Report* and 2 August arose from a shift in probability from rates between 6% and 8% to rates between 5¼% and 6%. Chart B also shows that market participants were less uncertain on 2 August than they were on 9 May about where three-month interest rates would be in September. The reduced time to the contract's maturity date accounts for a large part of that change.

Chart C shows the change in the probability distribution for the three-month sterling interest rate

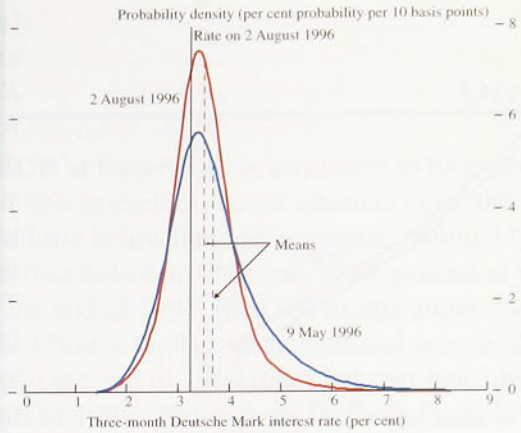
Chart C
Change in the implied probability distribution for the three-month sterling interest rate in March 1997(a)



(a) Derived using LIFFE March 1997 options on the short sterling future, as at 9 May and 2 August. These options expire on 19 March 1997.

in March 1997 between 9 May and 2 August. It shows that the fall of 87 basis points in the mean interest rate between these dates reflected a move in probability away from outcomes between 6½% and 11% and towards outcomes between 3½% and 6½%. This was a move from a relatively broad range of rates, some of which were very much higher than the then current rate, to a narrower range of rates around or below the level of 5.75% on 2 August. The probability of three-month

Chart D
Change in the implied probability distribution for the three-month Deutsche Mark interest rate rate in March 1997(a)



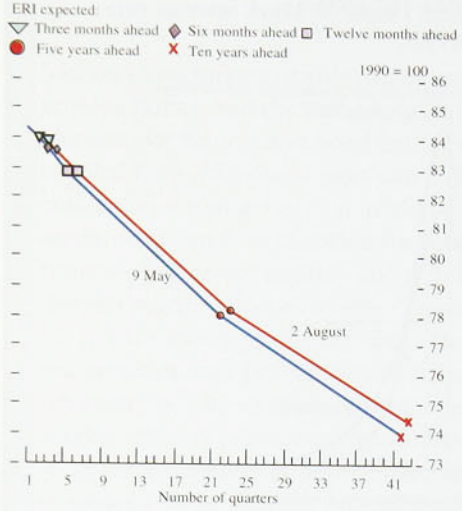
(a) Derived using LIFFE March 1997 options on the euromark future, as at 9 May and 2 August. These options expire on 17 March 1997.

interest rates being at or below 5.75% in March 1997 more than doubled from around 16% to around 38% between the two dates, while the probability of three-month interest rates being at or below 6% increased from around 23% to around 53%.

Chart D shows the change in the probability distribution for the short-term Deutsche Mark interest rate in March 1997 between 9 May and 2 August. It shows a fall in the mean interest rate of 16 basis points, which was underpinned by a move in probability from outcomes between 1½% and 2¾%, and between 4¼% and 7%, to outcomes between 2¾% and 4¼%.

That suggests that the narrowing gap between expected sterling and Deutsche Mark short-term interest rates in March 1997 since the May *Inflation Report* was underpinned by different shifts in expectations. The fall in the expected short-term sterling interest rate reflected, in part, the market attaching a lower probability to high rates in the near future (that is, rates some one to five percentage points above the level on 2 August). But the smaller fall in the expected short-term Deutsche Mark interest rate over the same period reflected a *smaller* shift in probability from both tails of the distribution to outcomes within one percentage point either side of the level of 3.25% on 2 August. The charts also show that the market is more confident about the level of German short-term rates some seven months from now than it is about UK rates.

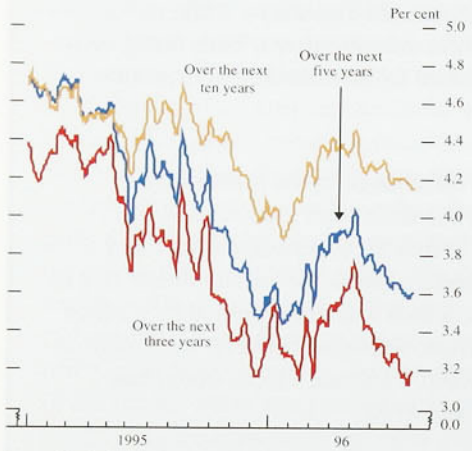
Chart 2.15
UK effective exchange rate profiles(a)



Sources: Bank for International Settlements, Datastream and Bank of England.

(a) Assuming uncovered interest rate parity.

Chart 2.16
Average inflation expectations(a)



Source: Bank of England.

(a) Five-day moving average.

It is possible to calculate an implied path for the exchange rate over the next ten years by comparing UK and overseas interest rates and assuming that currencies move to equalise expected returns across countries (uncovered interest rate parity). Although the spot exchange rate depreciated between the May and August *Reports*, the 'expected' exchange rate in ten years' time rose by about ½% or so (see Chart 2.15); interest differentials now imply a less steep depreciation of sterling. That is because UK interest rates are expected to be a little lower relative to those overseas than at the time of the May *Report*, particularly in the near term. The change in view about interest rates may reflect a fall in expected UK inflation relative to that overseas: average RPI inflation expectations derived from the gilt market have fallen—particularly for the next three and five years, as Chart 2.16 shows.(1)

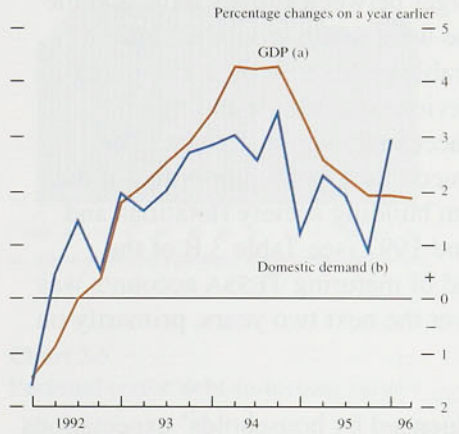
2.5 Summary

The continued strength of broad money signals higher nominal demand growth this year and next. Although that relationship is imprecise, the further build-up in private sector liquidity poses risks to inflation: broad money is growing faster than is compatible with the inflation target in the long run. Short-term interest rate and inflation expectations derived from financial markets have fallen since the May *Report*; longer-term expectations were little changed.

(1) Those short-term expectations of RPI inflation are affected by interest rate changes, because mortgage interest payments are included within the retail prices index.

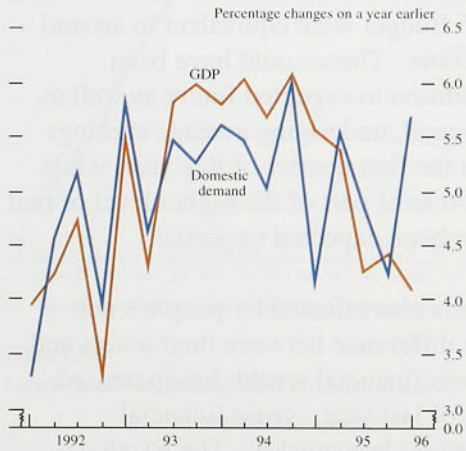
Demand and supply 3

Chart 3.1
Growth of real GDP and domestic demand



(a) At factor cost.
(b) At market prices.

Chart 3.2
Growth of nominal GDP and domestic demand(a)



(a) At current market prices.

Table 3.A
Contributions to GDP growth(a)

Percentage point contribution

	1994	1995			1996
	Year	Year	Q3	Q4	Q1
Consumers' expenditure	1.6	1.3	—	0.4	0.6
Investment	0.5	—	-0.3	—	0.3
Government consumption	0.4	0.3	—	—	—
Net exports	0.9	0.8	0.3	—	-0.5
Stockbuilding	0.5	0.1	0.5	-0.1	—
GDP growth	3.9	2.5	0.6	0.4	0.4

(a) Measured at 1990 market prices.

3.1 Overview

Real GDP, at factor cost, is estimated to have grown at around ½% in each of the six quarters since the start of 1995, a little below its long-run trend. Annual GDP growth rose between 1992 and 1994, peaked at just over 4% at the end of 1994, then fell to just under 2% in 1996 Q2 (see Chart 3.1). Domestic demand growth also peaked at the end of 1994, then fell, but rose again in the first half of 1996. Net exports increased annual GDP growth throughout most of 1993 to 1995, but reduced it in the first quarter of 1996.

Real M4—broad money deflated by the increase in retail prices excluding mortgage interest payments—grew by 7% in the year to 1996 Q2. Changes in real M4 growth have typically preceded changes in real domestic demand growth over the past 30 years, so the recent rise in real M4 growth suggests a rise in real domestic demand growth over the next year or so.

Nominal GDP growth was around 4% in the four quarters to 1996 Q1, less than would be consistent with inflation at 2½% and real GDP growth at its long-run trend rate. But nominal domestic demand was around 5¾% higher in the first quarter of this year than a year earlier and was accelerating (see Chart 3.2).

3.2 Domestic demand

Real domestic demand is estimated to have increased by 0.9% in the first quarter of 1996, twice as much as in the previous quarter. In particular, both consumption and investment accelerated. Table 3.A shows the contribution to GDP growth over the past two years made by the main expenditure components. Despite growing below its long-run trend rate last year, consumption was the main source of GDP growth. According to the ONS, directly measured stockbuilding was equivalent to around ¾% of GDP in the year to 1996 Q1, only the second time it had been that high since 1980.

Personal sector demand

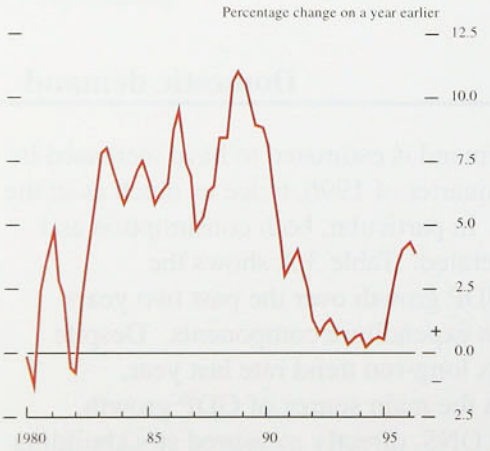
Consumer spending accelerated in the first quarter of 1996, when it amounted to £116 billion. The real increase in the first quarter is estimated to have been 0.9%. Personal income was boosted by the regional electricity companies' (RECs) rebate of around £50 to each of its customers and by a special dividend payout arising from the merger between Lloyds Bank and the TSB. Together these were worth around £2 billion. Consumption of durable goods rose by 2.1%, much faster than in the previous quarter; spending on non-durable goods accelerated only slightly. The previous *Report* argued that a small proportion of the 'windfall gains' from building society flotations and takeovers in 1996 and 1997 (see Table 3.B of the previous *Report*) and of maturing TESSA accounts was likely to be spent over the next two years, primarily on consumer durables.

Consumption is influenced by households' expectations of their future disposable income, which is unlikely to have been affected by one-off payments in 1996 Q1. So why did consumption accelerate? First, disposable income is affected by taxes. The tax cuts announced in the November 1995 Budget were equivalent to around ½% of personal income. These could have been considered as an addition to expected future as well as current income. Second, underlying average earnings growth increased in the first quarter of this year, while RPI inflation fell. At least part of the higher level of real earnings might have been expected to persist.

Third, consumption is also affected by people's net wealth—that is, the difference between their assets and their liabilities. Gross financial wealth has increased since the beginning of last year; gross financial liabilities have increased less quickly. The FT-SE All-Share index increased by 3% in 1996 Q2. Although it fell in July, it was still 10% higher than a year earlier. Last year, 18% of the personal sector's gross financial wealth was held directly as equities.

Another important element of households' wealth is their money, either in cash or in bank and building society accounts. These holdings rose rapidly last year and in the first half of this year, but the growth rate is not historically unusual. Individuals' holdings of real M4, after taking into account increases in retail prices, rose by 4% in the year to 1996 Q2. This was much stronger than at any time in the past five years, as Chart 3.3 shows, but lower-than-average growth in the 1980s.

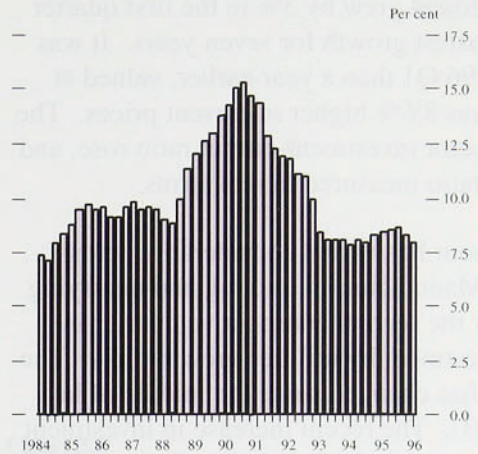
Chart 3.3
Growth of individuals' holdings of real M4[(a)]



Sources: ONS and Bank of England.

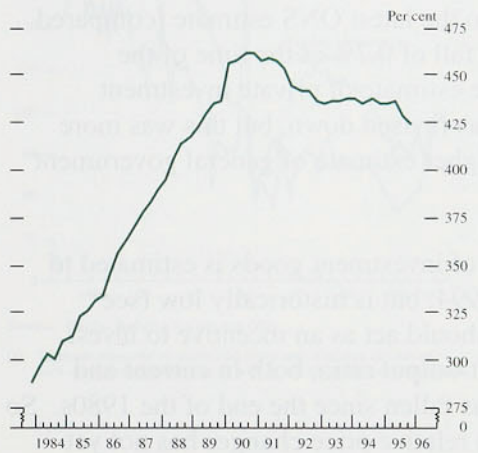
(a) Deflated by retail prices excluding mortgage interest payments.

Chart 3.4
Personal sector income gearing[a]



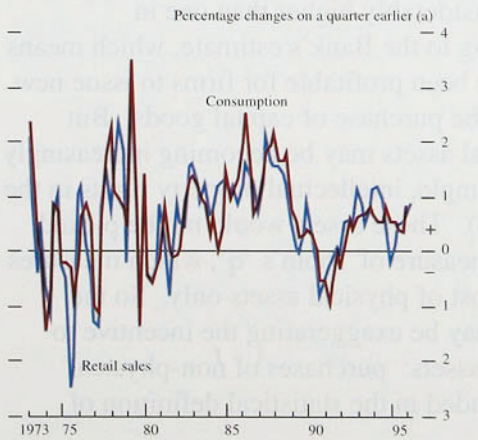
(a) Interest payments as a percentage of personal disposable income.

Chart 3.5
Personal sector debt-to-income ratio[a]



(a) Total financial liabilities as a percentage of quarterly disposable income.

Chart 3.6
Growth of retail sales and consumption



(a) Two-quarter moving average measured in constant prices.

Personal sector gross interest payments have fallen recently, partly because of lower interest rates. Chart 3.4 shows that interest payments as a proportion of disposable income were low in 1996 Q1 relative to the previous twelve years, and the ratio is likely to have fallen further in 1996 Q2. The debt-to-income ratio, too, has fallen since 1991, as shown in Chart 3.5. So consumers may be more willing to borrow now than in the previous five years.

In summary, households' wealth has improved, their expected future income has also probably risen, and debt burdens have fallen. This suggests that consumption is likely to continue growing at above its long-run average rate over the next two years.

Retail sales volumes grew by 1.3% in 1996 Q2, more than three times as fast as in the previous quarter. Although in the first quarter retail sales growth was much weaker than consumption growth, the picture may have been distorted by a changing spending pattern around Christmas, so it is useful to look at growth over two quarters together. Between 1995 Q3 and 1996 Q1 retail sales volumes grew by 1.2% while consumption grew by 1.6%. Chart 3.6 shows that over the past 20 years there was a close correlation between consumption growth and retail sales growth. And there has been no long-run trend change in the proportion of consumption represented by retail sales, so there is little reason to think that the link has changed (although it was temporarily distorted by the introduction of the National Lottery at the end of 1994). Average quarterly retail sales growth in the first half of this year was 0.8%: this is consistent with consumption growth in 1996 Q2 remaining above its long-run average.

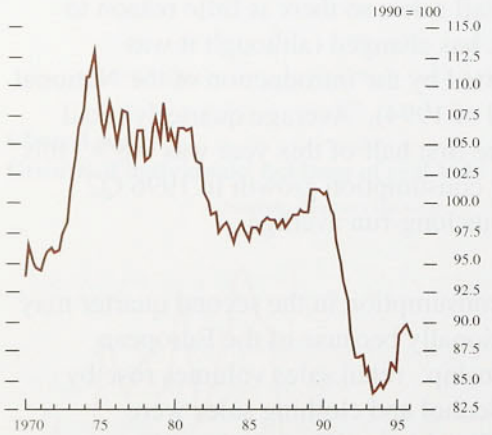
Retail sales and consumption in the second quarter may have risen exceptionally because of the European football championship: retail sales volumes rose by 1.3% in June. Alcohol and clothing sales were especially high. But the net effect on domestic consumption was probably small: other expenditure, such as going to the cinema and theatre, may have fallen. The biggest effect was probably on spending by tourists, which is assigned to exports in the National Accounts. The English Tourist Board estimates that an extra 250,000 tourists entered the United Kingdom in June, spending an average of at least £500 each. This would have added ¼% to exports.

Table 3.B
Real investment

	Percentage of total	Percentage change on two quarters earlier		
	1995	1995		1996
	Year	Q1	Q3	Q1
Total investment	100	2.6	-3.2	1.7
By industry: (a)				
Mining and quarrying	4.5	-0.9	13.1	-17.3
Manufacturing	12.7	1.1	8.5	-5.3
Utilities	4.5	-4.0	-22.1	41.1
Other industries	54.4	1.0	-2.5	2.2
By asset:				
Vehicles, ships and aircraft	9.0	-1.6	-10.5	8.4
Plant and machinery	35.2	1.6	0.8	4.1
Other new buildings and works	35.7	0.7	-2.3	-1.1
Dwellings	20.1	10.0	-7.9	-0.6

(a) Excludes residential investment, so percentages of total investment in this category do not add up to 100.

Chart 3.7
Relative price of investment goods(a)



(a) Ratio of the implied investment deflator to the GDP deflator; both at market prices.

Corporate sector demand

Real private investment grew by 3% in the first quarter of this year—its fastest growth for seven years. It was 3¼% higher in 1996 Q1 than a year earlier, valued at 1990 prices, but was 8¾% higher in current prices. The nominal private sector investment-output ratio rose, and by more than the ratio measured in real terms.

Investment behaviour has varied considerably across sectors recently. Manufacturing, mining and quarrying investment fell for the second consecutive quarter in 1996 Q1. But investment by utilities grew rapidly. The pattern of growth has changed since the middle of last year (see Table 3.B). The recent increase in investment expenditure has been entirely due to spending on plant and machinery and on vehicles, ships and aircraft. Residential and non-residential construction-related investment fell in the year to 1996 Q1. In 1995 as a whole, total investment valued at 1990 prices fell by 0.1%, according to the latest ONS estimate (compared with an estimated fall of 0.7% at the time of the May *Report*). The estimate of private investment growth in 1995 was revised down, but this was more than offset by a higher estimate of general government investment.

The relative price of investment goods is estimated to have risen since 1994, but is historically low (see Chart 3.7). That should act as an incentive to invest. But the investment-output ratio, both in current and constant prices, has fallen since the end of the 1980s. So the incentive from relative price changes has not yet prompted strong real investment growth. The market valuation of capital relative to the replacement cost of capital is known as the valuation ratio or Tobin's 'q'.(1) That ratio was considerably higher than one in 1996 Q1, according to the Bank's estimate, which means that it should have been profitable for firms to issue new equity to finance the purchase of capital goods. But firms' non-physical assets may be becoming increasingly important (for example, intellectual property rights in the computer industry). These assets would not be picked up in the Bank's measure of Tobin's 'q', which measures the replacement cost of physical assets only. So the Bank's measure may be exaggerating the incentive to invest in physical assets: purchases of non-physical assets are not included in the statistical definition of investment.

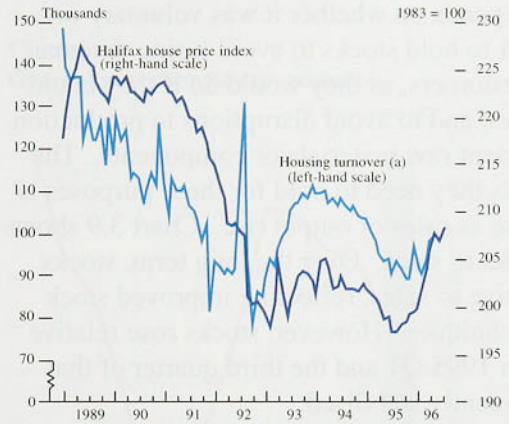
(1) See 'Saving, investment and real interest rates', *Bank of England Quarterly Bulletin*, February 1996, pages 51–62.

Firms have an incentive to invest when a shortage of capacity is likely to limit future output growth. The number of manufacturing firms expecting plant capacity to limit their output over the next four months was above its long-run average in the CBI's Industrial Trends Survey for July. In the service sector, where recently output has been growing more strongly, survey evidence of capacity utilisation suggests that firms have a strong incentive to increase investment.

Not all the data point to stronger investment growth. Retained earnings of industrial and commercial companies (ICCs) were lower in the first quarter of 1996 than the average of 1994 and 1995. Annual gross trading profit growth has slowed since 1994 while dividend and interest payments have risen sharply.

Private residential construction activity will probably pick up in the second half of this year. House prices have risen recently (see Chart 3.8), and net lending secured on dwellings rose in the first half of this year. Housing turnover rose a little in the first half of this year, but private housing starts and completions together were weaker in the three months to June than in the previous three months.

Chart 3.8
House prices and housing turnover



Sources: Halifax Building Society and ONS.

(a) Turnover measured by particulars delivered. The data are moved back one month because figures refer to activity in the previous month.

Stockbuilding

The August 1995 *Report* suggested that some destocking in 1995 could lead to a general slowdown in GDP growth in the second half of that year and the beginning of this. In the event, stockbuilding remained very high for most of last year. But lower stockbuilding probably depressed growth in the first half of this year.

Around a third of the large increase in stocks in 1995 Q4 and 1996 Q1 was accounted for by the statistical alignment adjustment. That adjustment is made by the ONS to the expenditure measure of GDP so as to make it tally with the output measure.(1) The alignment adjustments between 1993 Q1 and 1995 Q4 were revised by an absolute average of £424 million a quarter, in 1990 prices, between the first estimate made by the ONS and the latest estimate made in June this year. The equivalent revisions for directly measured stockbuilding (that is, excluding the alignment adjustment) were £351 million a quarter. So in the recent past, both the alignment adjustment and directly measured stockbuilding have been subject to large revisions. The alignment adjustment is included in

(1) As further information becomes available, more weight is placed on the expenditure measure. See the box on page 24 of the May 1995 *Inflation Report*.

Table 3.C
Changes in stocks

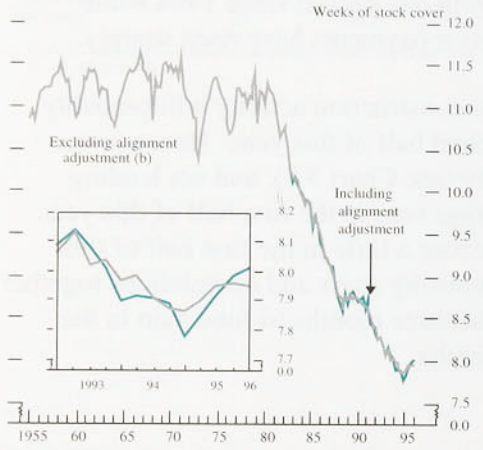
£ billions, 1990 prices

		Total stocks (a)	*of which:* Manufacturing	Retailing	Wholesaling	Other industries
1995	Q1	0.1	0.5	0.1	-0.2	-0.4
	Q2	0.8	0.5	0.2	—	0.1
	Q3	1.4	0.9	0.2	0.2	0.1
	Q4	0.9	0.6	0.2	—	0.1
1996	Q1	1.0	0.3	0.3	0.2	0.1

Note: Components may not sum to total because of rounding.

(a) Excluding the statistical alignment adjustment made by the ONS.

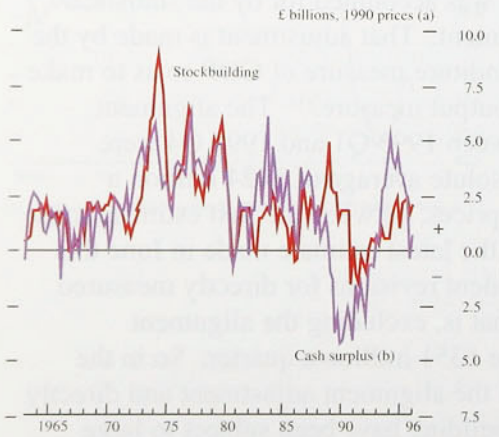
Chart 3.9
UK stock-sales ratios(a)



Sources: ONS and Bank of England.

(a) Level of stocks outstanding relative to quarterly total final sales in 1990 prices. Total final sales defined as domestic expenditure plus UK exports minus stockbuilding.
(b) Before 1983, alignment adjustment is zero.

Chart 3.10
Industrial and commercial companies' cash surplus and stockbuilding



(a) Both series are deflated by the GDP deflator.
(b) Undistributed income minus fixed capital formation.

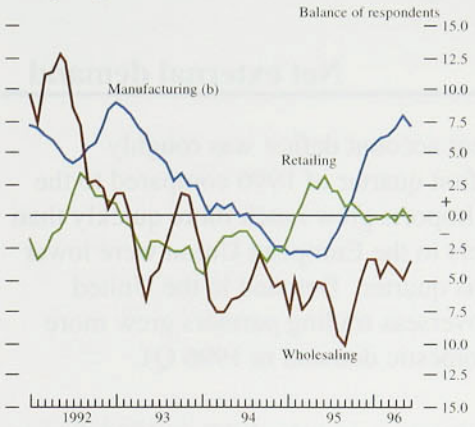
stockbuilding data only because of the difficulties in measuring stocks—not because the ONS have additional information that lead it to believe that stocks data are being under or overrecorded. So it is probably best to analyse stocks excluding the alignment adjustment, but there is a possibility that directly measured stockbuilding has been underrecorded.

Table 3.C shows that stockbuilding in manufacturing, which accounted for most of the rise in stocks last year, was considerably lower in 1996 Q1 than in 1995. Stockbuilding in the distribution industries (which hold about a third of total stocks) was around its long-run average last year, but increased significantly in 1996 Q1.

The significance of the recent increase in stocks for future output depends on whether it was voluntary or not. Firms want to hold stocks to avoid losing revenue and potential customers, as they would do if they could not satisfy orders, and to avoid disruptions to production through insufficient raw materials or components. The amount of stocks they need to hold for these purposes is likely to increase as sales or output rise. Chart 3.9 shows the ratio of stocks to sales. Over the long term, stocks have fallen relative to sales, reflecting improved stock management techniques. However, stocks rose relative to sales between 1995 Q1 and the third quarter of that year, but subsequently stabilised.

A firm's desired holding of stocks will depend also on financial constraints. A firm may be willing to hold more stocks relative to sales because it has excess cash holdings. Alternatively, if a firm faces cash-flow difficulties, it may liquidate its stocks—it may not want, or be able, to borrow more. One measure of a firm's cash surplus is its undistributed earnings after capital expenditure. Chart 3.10 shows that in the past there has been a close relationship between this measure of cash surplus and stockbuilding for ICCs (which hold about three quarters of all stocks). Some of the large cash surplus in 1993 and 1994 was used to repay bank borrowings which had risen rapidly in the late 1980s. The rest may have been used to build up stocks relative to sales. Recently, ICCs' cash surplus has fallen sharply: in 1996 Q1 it was £0.7 billion, compared with £4.1 billion a year earlier, so the rise in the stock to sales ratio since the beginning of last year may have been involuntary. But firms' cash surpluses were still positive in the first quarter of this year, so there is not strong pressure from this source to reduce the total level of stocks.

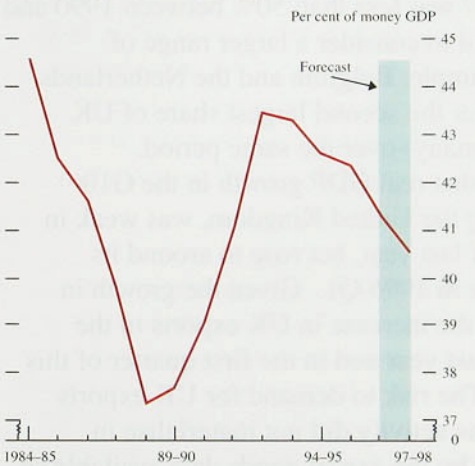
Chart 3.11
Adequacy of stocks[a]



Sources: CBI Distributive Trades Survey and CBI Industrial Trends Survey.

(a) Six-month moving average of the balance of firms reporting that stocks are more than adequate; normalised so that the long-term average balance is zero.
(b) Finished goods only.

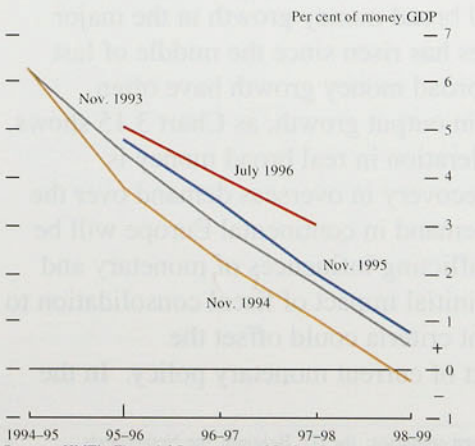
Chart 3.12
General government expenditure[a]



Sources: HMT's *Summer Economic Forecast* and ONS.

(a) Excluding privatisation proceeds and lottery-financed spending and net of interest and dividend receipts.

Chart 3.13
Revised forecasts of the general government financial deficit as a fraction of GDP



Sources: HMT's *Financial Statements and Budget Reports* and HMT's *Summer Economic Forecast*.

CBI surveys include a question about the adequacy of a firm's stocks. The answers can be useful in identifying particular sectors which might have built up stocks involuntarily. There is a contrast between wholesalers' and manufacturers' responses to such questions, as shown in Chart 3.11. Over the six months to June this year, the balance of manufacturers reporting that their present stocks of finished goods were more than adequate was higher than its long-run average. But in wholesaling, firms reported that their stocks in relation to expected sales were lower. So, although it seems likely that manufacturers will seek to reduce their holdings of stocks in the immediate future, wholesalers' stocks may be lower than desired.

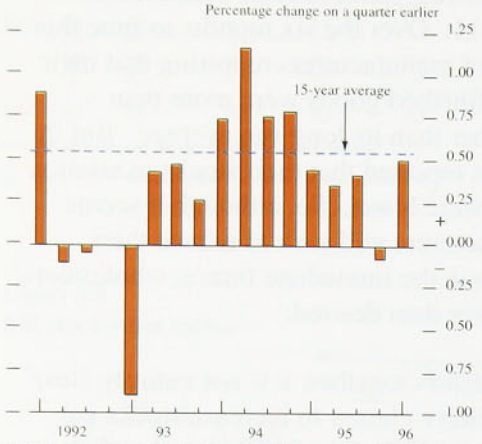
Taking all these factors together, it is not entirely clear why firms should have *chosen* to increase stocks so quickly in the year to 1996 Q1. Excluding the alignment adjustment, the stock to sales ratio rose initially in 1995, then stabilised in 1995 Q4 and 1996 Q1. Weaker-than-expected demand was probably the main explanation for the build-up of stocks in 1995. Looking ahead, stocks in manufacturing may fall as firms seek to improve their cash flow.

Public sector demand

Real general government consumption rose by 0.1% in the first quarter of this year. General government investment fell by nearly 15%, but investment by public corporations rose strongly. In real terms, overall public sector demand fell in 1996 Q1, and was 2¼% lower than a year earlier. HM Treasury's Summer Economic Forecast, published on 9 July, projected further declines in public sector demand relative to GDP over the next two financial years (see Chart 3.12). The projected large falls in government investment are planned to be partly offset by private investment under the Private Finance Initiative.

Fiscal consolidation has been much slower than expected at the time of the November 1994 Budget. This was reflected in revisions to HM Treasury's forecasts for the deficit in the Budget last year, and in its latest Summer Economic Forecast (see Chart 3.13). The revisions were mainly due to higher-than-expected real expenditure last year, partly because cash spending was close to projections while inflation was lower than expected. The amount of tax paid in the financial year 1995/96 was also unexpectedly low in relation to the level of activity—*effective* tax rates were lower. HMT's Summer Economic Forecast projected that they would

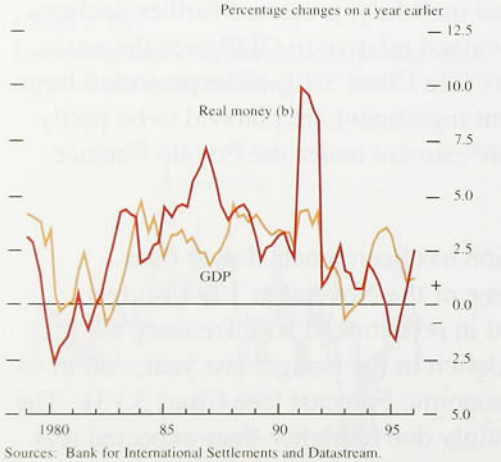
Chart 3.14
Growth of overseas real GDP(a)



Sources: Datastream, Bank for International Settlements and the OECD.

(a) G10 economies excluding the United Kingdom, weighted by share of UK exports to each economy.

Chart 3.15
Growth of overseas real GDP and real money(a)



Sources: Bank for International Settlements and Datastream.

(a) G7 economies excluding the United Kingdom weighted by the share of UK exports to each economy.
(b) Broad money deflated by consumer prices.

remain lower than anticipated at the time of the November 1995 Budget.

3.3 Net external demand

The external current account deficit was roughly unchanged in the first quarter of 1996 compared to the previous quarter. Imports grew much more quickly than exports but transfers to the European Union were lower than in the previous quarter. Demand in the United Kingdom's main overseas trading partners grew more slowly than UK domestic demand in 1996 Q1.

Exports, in constant prices, rose by 1.3% in 1996 Q1, after increasing by 0.6% in the last quarter of 1995. The increase in export volume growth reflected in part stronger growth in the United Kingdom's main overseas trading partners. The share of UK exports going to other members of the G7 was less than 50% between 1990 and 1995, so it is useful to consider a larger range of countries. For example, Belgium and the Netherlands together account for the second largest share of UK exports (after Germany) over the same period. Chart 3.14 shows that real GDP growth in the G10(1) markets, excluding the United Kingdom, was weak in the final quarter of last year, but rose to around its long-run trend rate in 1996 Q1. Given the growth in overseas demand, the increase in UK exports in the fourth quarter of last year and in the first quarter of this year was strong. The risk to demand for UK exports from weak overseas activity did not materialise in 1996 Q1: judging by the export goods data available so far for the second quarter, export volume growth remained robust.

Compared with the previous 15 years, real interest rates in France and Germany were very low in the first half of this year. And real broad money growth in the major overseas economies has risen since the middle of last year. Changes in broad money growth have often preceded changes in output growth, as Chart 3.15 shows. So the recent acceleration in real broad money is consistent with a recovery in overseas demand over the next year or so. Demand in continental Europe will be affected by the conflicting influences of monetary and fiscal policy. The initial impact of fiscal consolidation to meet the Maastricht criteria could offset the expansionary effect of current monetary policy. In the

(1) The G10 comprises eleven countries: the G7, Belgium, the Netherlands, Sweden and Switzerland.

United States, domestic demand grew by an annualised rate of 4.2% between 1995 Q4 and 1996 Q2. Growth there may slow down to its long-run trend rate of 2.8%.

Net external demand depends on imports as well as exports. Import volumes grew by nearly 3% in 1996 Q1, compared with 0.9% growth in UK domestic demand. Increased international specialisation has led to a trend increase in import penetration since 1980. But import penetration has increased unusually quickly since the beginning of last year, despite the real exchange rate depreciation at that time. Weak domestic demand overseas could have prompted foreign firms to seek volume growth in the United Kingdom at the expense of reduced profit margins.

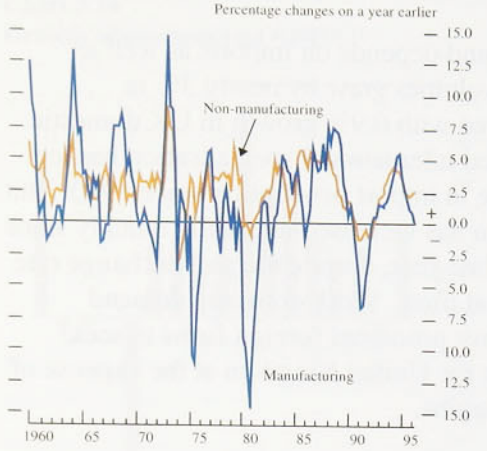
3.4 Output

Whole-economy annual output growth, valued at 1990 prices, is estimated to have slowed from a recent peak of 4.3% in 1994 Q4 to 1.8% in 1996 Q2. Whole-economy output is estimated to have increased by 0.4% in 1996 Q2, but excluding oil and gas extraction, output rose by only 0.3%. Service sector output increased more quickly than manufacturing output last year—this pattern of growth continued in the first half of 1996.

According to the initial estimate by the ONS, the effect of BSE reduced growth in GDP by about 0.1 percentage point in the second quarter, and growth in agricultural output by between five and ten percentage points. The effects of BSE are likely to be larger on agricultural supply than demand. The overall demand for agricultural products is unlikely to have fallen, even though the composition of that demand will have shifted away from beef to other food. But the supply of agricultural products, in the short run, will have been reduced by the slaughter of cattle.

Manufacturing output may remain weak in the near term if firms in that sector seek to reduce their holdings of stocks. That could slow output growth in the rest of the economy if, for example, manufacturing firms demand less output from services or construction industries or if lower manufacturing employment reduces consumption. Chart 3.16 compares growth in manufacturing output with output in the rest of the economy over the past 35 years. Although both have tended to move together, manufacturing output growth has been more volatile and there have been periods when manufacturing has been much weaker than other sectors of the economy.

Chart 3.16
Growth of manufacturing and non-manufacturing output



The degree of spare capacity will influence whether firms decide to respond to increased demand in the short run by raising their prices or increasing their output. CBI surveys suggest that the number of manufacturing firms expecting plant capacity to limit output over the next four months was above its ten-year average in July. But capacity constraints may be more pressing in the service sector. The number of service sector firms working at full capacity in 1996 Q2 was at its highest since the question was first asked in 1989, according to the British Chamber of Commerce. So short-run price pressures may be more prevalent in the service sector.

3.5 Summary

GDP continued to grow at a little below its long-run trend rate in the first half of 1996; in Q1, domestic demand accelerated as consumption and investment grew strongly. Consumption growth is likely to remain strong over the next two years. Debt burdens have fallen and wealth has increased. Tax cuts and a rise in aggregate real earnings may have raised households' expected future income. And building society windfalls and maturing TESSAs should provide a small temporary boost to consumption of durables.

Last year, investment in manufacturing grew by more than in any other industry. But more recently, total investment has grown despite lower manufacturing investment. Investment in other industries could grow more quickly than in manufacturing over the next two years. Capacity constraints are probably more pressing in the service sector than in manufacturing, and construction-related investment should be stimulated by the recent recovery in the housing market. Although government investment is planned to fall over the next two years, overall investment should grow more quickly than GDP.

Stocks, excluding the alignment adjustment, rose relative to total final sales over the year to 1996 Q1. Although the absolute level of stocks may not fall, GDP growth may be restrained by lower stockbuilding for the rest of this year.

The labour market 4

Claimant unemployment continued to fall in the second quarter, at almost the same rate as in the first three months of the year. But a rough estimate of the gap between total hours worked and the potential number of hours people would be willing to work has remained fairly constant over the past year, suggesting that the labour market has not tightened much over that period.

Post-tax annual real hourly wage growth—the 'consumption wage'(1)—picked up to 0.6% in the first quarter, the latest quarter for which data are available, after no growth in the year to the last quarter of 1995. In the second quarter of this year, the consumption wage probably rose sharply as a result of personal tax cuts in the November Budget, which took effect in April. The consumption wage for manufacturing workers was 4.2% higher in May 1996 than in the same month a year earlier. The real hourly pre-tax wage—the 'product wage'(2)—increased by 1.2% in the year to 1996 Q1, after rising by 0.6% over the year to 1995 Q4.

4.1 Demand for labour

According to the Labour Force Survey (LFS), the number of employees fell by 34,000 in spring 1996,(3) after increasing strongly over the previous three months (see Table 4.A). The Workforce in Employment (WIE) measure of employment fell by 71,000 over the quarter to March, almost reversing the 79,000 rise in the previous quarter. The decline in the first quarter on the WIE measure was the largest quarterly fall since 1994 Q4. The difference between the two measures may be explained by the fact that the LFS, a survey of households, covers a greater proportion of part-time jobs and jobs in the hidden economy, while the WIE is based on a survey of employers.

The LFS shows that part-time jobs have accounted for almost the entire increase in employment since the trough in output (see Table 4.B). In spring 1996, the number of full-time employees(4) fell by 8,000, while part-time employment was up by a further 4,000. The

Table 4.A
Total employment growth[a][b]

Changes over period shown; thousands

	1995				1996	
	Q1	Q2	Q3	Q4	Q1	Q2
Labour Force Survey measure [c]	77	36	98	57	118	-34
Workforce in Employment measure	22	-2	—	79	-71	..

.. not available.

(a) Data are for Great Britain.
(b) Includes self-employed.
(c) Q1 refers to December to February; Q2 March to May; Q3 June to August; Q4 September to November.

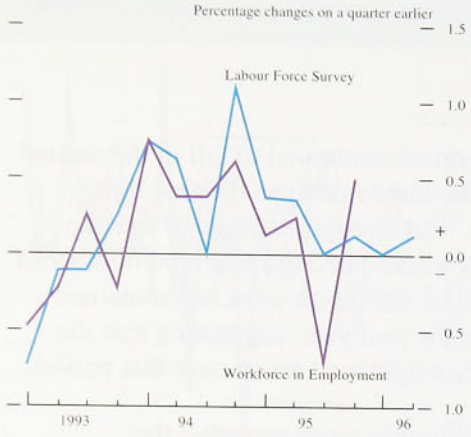
Table 4.B
Growth in full-time and part-time work over the recovery[a]

Labour Force Survey [b]		Workforce in Employment [c]	
Full-time	Part-time	Full-time	Part-time
2%	12%	-1%	8%

(a) In Great Britain; figures are rounded to the nearest whole number.
(b) Changes between spring 1992, the first point at which data are available, and spring 1996.
(c) Changes between 1992 Q1 and 1996 Q1.

(1) Deflated using the tax and prices index.
(2) Deflated using the GDP deflator at factor cost.
(3) Spring is defined as March to May inclusive, summer as June to August inclusive etc.
(4) This breakdown excludes the self-employed.

Chart 4.1
Changes in total hours worked



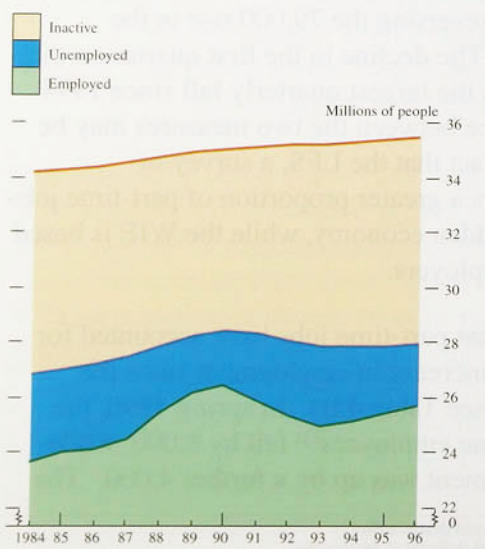
WIE data show that the number of people in full-time employment fell by 56,000 in the first quarter, while the number of part-time jobs rose by 32,000.

The divergence between the numbers of full and part-time jobs means that a better measure of labour use is total *hours* worked. Chart 4.1 shows LFS and WIE measures of total hours worked. Both measures show that labour use has been roughly unchanged over the past few quarters.

Surveys of employment intentions suggest some job growth. The June Manpower Survey of employment prospects showed a positive balance of 15 for 1996 Q3, compared with 16 recorded in the same period a year earlier.(1) According to the British Chambers of Commerce Survey, service sector employment is increasing at its fastest rate since 1991 and the manufacturing sector has been hiring slightly more workers than it has been shedding—although the rate of growth of manufacturing jobs has been fairly static over the past year.

The July CBI Quarterly Industrial Trends Survey recorded a negative balance of 17 of manufacturers planning to recruit staff. According to the survey, manufacturers' employment intentions improved steadily from a negative balance of 49 in spring 1991 to a balance of minus one in spring 1995, but subsequently declined.

Chart 4.2
Population of working age by labour market status



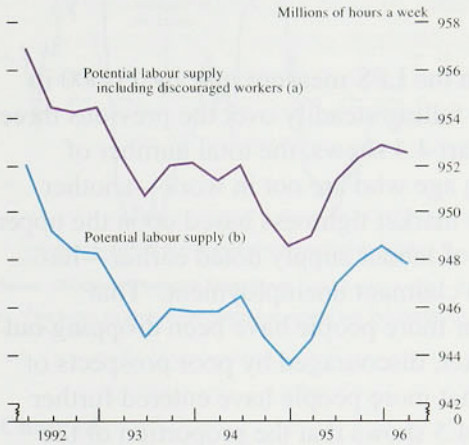
Source: Labour Force Survey.

4.2 Supply of labour

The LFS provides an estimate of the number of *economically active* people—that is, those in work and those actively seeking work. That is one measure of labour supply, but there are others. The *potential* supply of labour could, in fact, be larger as some economically inactive people of working age could be drawn into the labour market were suitable vacancies to arise. Potential supply may be more relevant over the medium term. Chart 4.2 shows the population of working age by labour market status. That is an upper bound on potential labour supply as some economically inactive people of working age, such as the long-term sick, do not contribute to potential supply. But others, including some of those in education and all those discouraged from seeking work by the state of the job market, are potential members of the labour force.

(1) A positive balance of around ten is considered to be neutral.

Chart 4.3
Potential labour supply



Sources: LFS and Bank of England.

(a) Estimated potential hours supplied, including 'discouraged workers'—those who would like to work but have not looked for a job in the past four weeks because they believe no jobs are available.
(b) Estimated potential hours supplied.

As when measuring labour demand, the total potential supply of *hours* is more relevant than the number of workers available. There are different ways of measuring potential hours supplied. One simple way is to add actual hours supplied to estimates of the additional hours which those involuntarily in part-time work would be prepared to work and of the hours which those who are actively seeking jobs would be willing to work (see Chart 4.3).[1] Although the approximation of hours offered is crude, it suggests that the number of hours people would potentially be prepared to work increased in 1995, before stabilising in the first half of 1996. The chart also presents an alternative indicator that includes 'discouraged workers' in the estimate of the potential supply of hours. Discouraged workers are people who would like to work but have not looked for a job in the past four weeks, because they believe that none is available. That shows a similar picture.

Higher education affects the potential labour supply. The proportion of people between 16 and 24 in full-time education rose only gradually from 17.2% in 1984 to 19.9% in 1988, but then increased sharply to 33.4% in 1995 and stayed at that rate in 1996. The Department for Education and Employment (DEE) projects that this proportion will remain steady until 1998, so the supply of labour will probably not be affected much by changes in the number of students over the next few years.

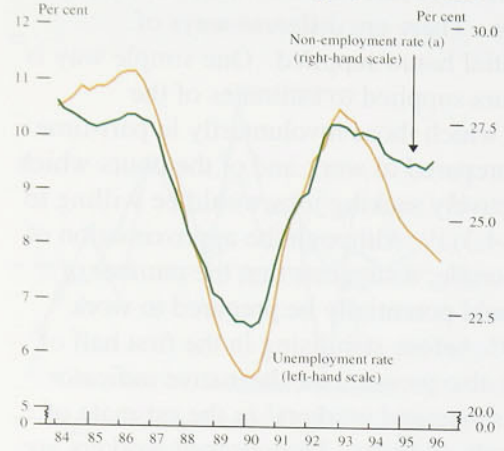
Demographic trends also influence potential labour supply. These are estimated by the Government Actuary's Department and the DEE. These sources project a rise in the population of working age of 0.36% a year between 1996 and 1998—in line with its long-term average, but not as fast as the rise between 1985 and 1987, the same stage of the previous cycle, when it rose by 0.53% a year. So potential labour supply is unlikely to expand as fast over the next two years as it did in the mid 1980s.

4.3 Measures of labour market tightness

In the short run, the interaction between the supply and demand for labour determines the tightness of the labour market. In the longer run, it determines real wages.

(1) In 1995, according to LFS data, 92% of employed men worked full-time and 8% of employed men worked part-time. In addition, 55% of employed women worked full-time and 45% worked part-time. Among part-timers, 25% of men and 10% of women said they would prefer to work full-time. A rough estimate of the potential supply of hours attributes 39 hours a week to each full-time employee and part-time employee who would like to work full-time and 15 hours to other part-time workers, as these are the average working weeks of each category. In addition, the ILO unemployed can be counted as willing to supply hours in similar proportions.

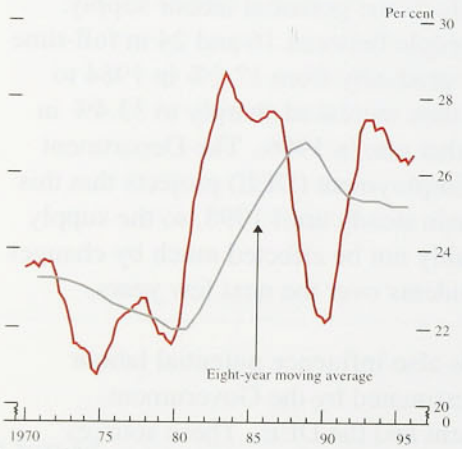
Chart 4.4
Unemployment and non-employment rates



Sources: ONS and Bank of England.

(a) Defined as the population of working age without employment divided by the population of working age, expressed as a percentage.

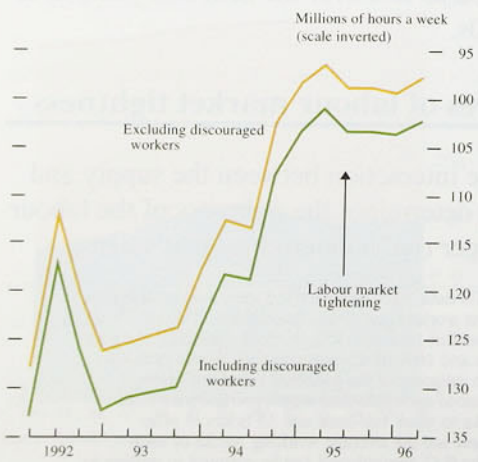
Chart 4.5
Non-employment rate(a)



Sources: ONS and Bank of England.

(a) Defined as the population of working age without employment divided by the population of working age, expressed as a percentage.

Chart 4.6
Gap between potential hours supplied and hours demanded



Sources: LFS and Bank of England.

Claimant unemployment fell by an average of 11,600 a month in the three months to June to reach 2,152,000. In the three months to March—the latest data available at the time of the May *Inflation Report*—unemployment fell by an average of 16,300. However, that is not sufficient to prove that the labour market has been tightening.

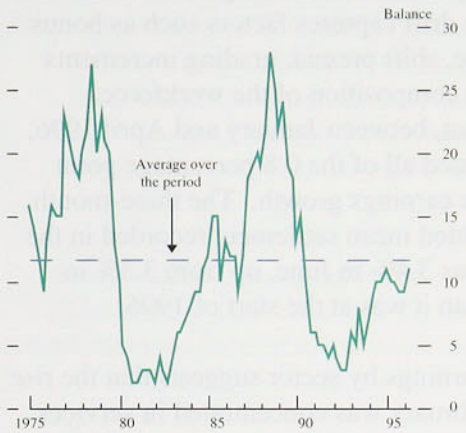
Unemployment on the LFS measure rose by 11,000 in spring 1996, after falling steadily over the previous three years. And as Chart 4.4 shows, the total number of people of working age who are not in work—another measure of labour market tightness based upon the upper limit of estimates of labour supply noted earlier—has fallen by less than claimant unemployment. That suggests that either more people have been dropping out of the labour market, discouraged by poor prospects of finding a job, or that more people have entered further education. Chart 4.5 shows that the proportion of the population of working age without employment has been falling over the past three years. It also shows that non-employment is still significantly higher than its eight-year average—another measure of labour market tightness.

A better indication of the state of the labour market is the estimated balance between the potential supply of hours and those hours worked, shown in Chart 4.6. The chart suggests that the labour market tightened between the beginning of 1993 and the middle of 1995, but has not tightened since then. If discouraged workers are included as potential suppliers of labour, the resulting picture is similar.

While the estimated balance between hours worked and hours offered shows no tightening over the past year, there are two indicators which lead to a different view: skill shortages and vacancies. Neither piece of evidence is particularly strong. Skill shortages in manufacturing rose between autumn 1992 and spring 1995; they subsequently fell slightly before rising in the latest quarter according to the CBI July Quarterly Industrial Trends Survey (see Chart 4.7). But the British Chambers of Commerce Survey suggests recruitment difficulties are more of a concern: in services and manufacturing, they are at their highest since 1990.

The ratio of vacancies to the number of unemployed also suggests that the labour market is tight, with the ratio in June at the same level as recorded in late 1987 (see Chart 4.8), when inflationary pressures in the labour

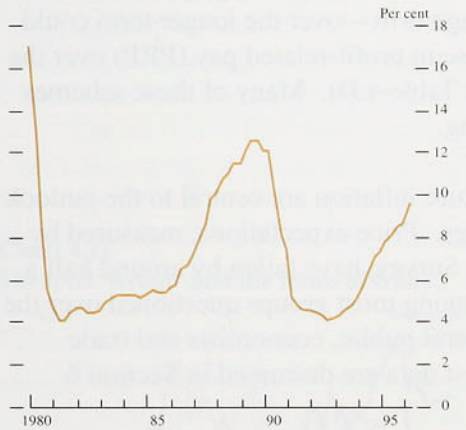
Chart 4.7
Skill shortages



Source: CBI Quarterly Industrial Trends Survey.

Q: What factors are likely to limit your output over the next four months?
A: Skilled labour.

Chart 4.8
Vacancies as a proportion of unemployment



Note: It is thought that about a third of vacancies are notified at Jobcentres.

Table 4.C
Recoveries compared[a]

	1980s	1990s
Inactivity [b]	-1.3	2.4
Claimant unemployment	3.2	-1.2
Total employment [c]	-2.0	-1.3

(a) Recoveries compared since the troughs in GDP in 1981 Q1 and 1992 Q1. Changes are expressed as percentage points of the population of working age.
(b) Defined as the population of working age neither employed nor claiming unemployment benefit.
(c) Includes self-employed.

market had been building up strongly. The relationship between unemployment and vacancies has changed, however, and is no longer a good measure of labour market tightness. That is discussed later.

On balance, therefore, the labour market probably stopped tightening at the beginning of 1995, when GDP growth slowed to below trend.

4.4 Recoveries compared

Table 4.C compares changes in employment, unemployment and inactivity as a share of the total working-age population in the first four years of the recoveries of the 1980s and 1990s. In the 1990s recovery, claimant unemployment *fell* by 1.2 percentage points of the working-age population, compared with a *rise* of 3.2 percentage points between 1981 Q1 and 1985 Q1—a similar period over the previous cycle. Employment fell in both recoveries, but by a little less in the 1990s. However, the proportion of people neither employed nor actively seeking work—the inactive—rose sharply in the 1990s, after falling by 1.3 percentage points during the previous recovery. Almost the entire net improvement in unemployment performance in the 1990s compared with the 1980s was accounted for, therefore, by the rise in inactivity.

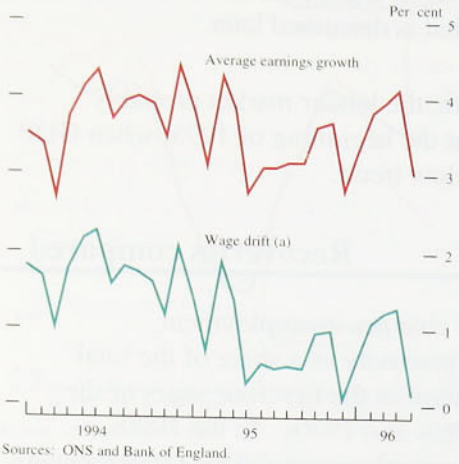
The structure of employment also changed. In the 1990s recovery to date, service sector jobs increased by 3%, while those in manufacturing declined by 4%. This compares with an increase of 4% in service sector employment over a similar period in the early 1980s, which was more than offset by a fall of 14% in manufacturing employment.

This shift into service sector jobs may have depressed measured aggregate productivity growth, as service sector productivity—as measured—is lower and increases less quickly. Between 1983 and 1994—that is, between years which came two years after the previous troughs in output—average productivity in production industries increased by 66%, while average service sector productivity increased by 13%.

4.5 Nominal earnings

Nominal underlying average earnings growth per worker increased from 3¼% in December to 3¾% in February, where it remained in March and April. It fell back to 3½% in May, as expected.

Chart 4.9
Twelve-month average earnings growth and contribution of wage drift



Sources: ONS and Bank of England.

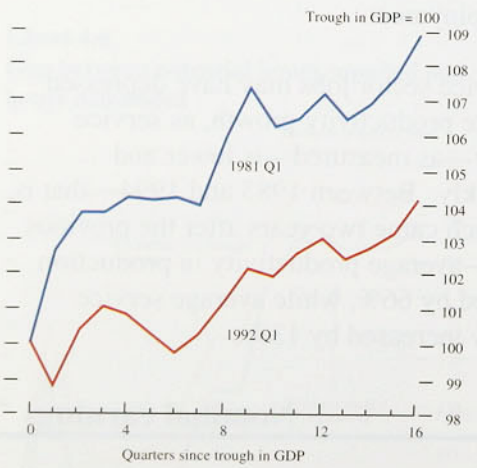
(a) Gap between twelve-month seasonally adjusted average earnings growth and the twelve-month employment-weighted mean settlement multiplied by the proportion of earnings accounted for by basic pay.

Table 4.D
Profit-related pay schemes

	Number of schemes	Employees covered (thousands)
1988	615	90
1989	869	122
1990	1,175	232
1991	1,277	350
1992	2,597	718
1993	4,615	1,167
1994	7,039	1,794
1995	9,425	2,438

Source: Inland Revenue.

Chart 4.10
Real product wage per employee in employment:(a) recoveries compared



(a) The real product wage is defined as income from employment plus employers' contributions divided by the GDP deflator at factor cost. This is then divided by total employees in employment.

The pick-up in average earnings growth in February can be accounted for by an increase in wage drift rather than settlements. Wage drift captures factors such as bonus payments, overtime, shift premia, grading increments and changes in the composition of the workforce. Chart 4.9 shows that, between January and April 1996, wage drift contributed all of the 0.8 percentage point increase in average earnings growth. The three-month employment-weighted mean settlement recorded in the Bank's database was 3.4% in June, up from 3.3% in April, but lower than it was at the start of 1996.

A breakdown of earnings by sector suggests that the rise in wage drift in February was concentrated in services. Bonus payments in the financial sector were much higher in spring 1996 than spring 1995: income in financial companies rose by 3% in 1994 and then by 19% in 1995. The effect of higher wage drift then dropped out of the twelve-month average earnings calculation in May. One factor pushing up bonus payments—and wage drift—over the longer term could be the rapid increase in profit-related pay (PRP) over the past few years (see Table 4.D). Many of these schemes pay out in the spring.

Expectations of future inflation are central to the outlook for nominal earnings. Price expectations, measured by the Barclays Basix Survey, have fallen by around half a percentage point among most groups questioned over the past year—the general public, economists and trade unionists. The latest data are discussed in Section 6.

4.6 Explaining the behaviour of real earnings

Real wages per worker have grown less over the current recovery(1) than over the corresponding part of the previous upturn (see Chart 4.10), even though unemployment started to fall much earlier in the current cycle.

One possible explanation for subdued wage behaviour in the current recovery is a lower natural rate of unemployment than during the previous cycle. At the natural rate of unemployment, the demand for labour equals the 'effective' supply of labour; that is, the number of hours of work demanded by firms at a given real product wage equals the number of hours firms believe is being offered to them. The effective supply of labour is less than the total supply on offer because the

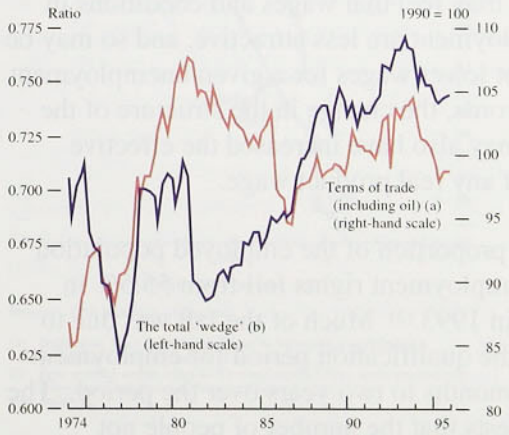
(1) This comparison uses the trough of GDP as the start of the recovery.

labour market is not perfectly competitive—giving rise to involuntary unemployment. Factors which may affect the natural rate include the level of unemployment benefit compared with the earnings of those in work (the 'replacement ratio'), the degree of mismatch between workers and jobs, the institutions of wage bargaining and the perceived job security of those in work.

Several factors in the 1980s tended to increase the effective labour supply at any given real product wage, suggesting that the long-run natural rate of unemployment should have fallen. According to the Department for Social Security, the proportion of the working population whose replacement ratio was below 0.7 increased from about 85% in 1985 to over 95% in 1996. By reducing the income available outside the labour market, a fall in the replacement ratio is likely to increase the number of people prepared to work at a given real product wage, and hence the number of hours effectively offered.

Other structural and institutional changes in the 1980s also tended to promote flexibility in the labour market by reducing trade union power and making it easier to hire and fire workers (see February 1996 *Inflation Report*).

Chart 4.11
The total 'wedge' and the terms of trade



Sources: ONS and Bank of England.

(a) Unit value index of exports expressed as a percentage of unit value index for imports.
(b) The ratio of the real consumption wage to the real product wage per worker. The real consumption wage is defined as the income from employment deflated by the tax and prices index. This is then divided by total employees in employment. The real product wage is defined as before.

A rise in the consumption wage relative to the product wage—the 'wedge' between them—would tend to increase the number of hours people are effectively prepared to offer for a given real product wage, because the benefit to an employee of an extra hour's work would have increased. Chart 4.11 shows that the ratio of the consumption wage to the product wage rose fairly steadily over the 1980s, so that might also have reduced the natural rate. Two main factors affect the ratio: the terms of trade and taxes on income. The improvement in the terms of trade in the second half of the 1980s merely reversed the deterioration in the first half of that decade, and so is unlikely to have pushed the natural rate in one direction.

Increased job insecurity would also have tended to reduce the natural rate. If job security had fallen—that is, if the risk of losing one's job had increased—that might also have increased the number of hours people are effectively prepared to offer for a given real product wage. It depends on what employees perceive their opportunities to be if they are made redundant. The evidence on job security is mixed. One way of measuring job security is to look at the proportion of the

Table 4.E
Number of people making at least one claim for unemployment-related benefits[a]

Five-year period	Millions	Percentage of working-age population (b)
1983–88	10.7	38.4
1984–89	10.1	35.9
1985–90	9.7	34.1
1986–91	9.6	33.8
1987–92	9.8	34.2
1988–93	9.8	34.5
1989–94	10.0	35.1
1990–95	10.3	36.3

Source: Supplied to the Bank by the ONS.

(a) Great Britain.
(b) These data should be treated as estimates since the population of working age over the five-year period has been estimated.

Table 4.F
Redundancies per 1,000 employees by occupation

	1991	1994	1995			
	Spring	Winter	Spring	Summer	Autumn	Winter
Managers and administrators	12.8	4.4	10.2	8.6	9.5	9.7
Professional	7.6	4.8	5.3	5.2	5.3	..
Associate professional and technical	13.1	..	8.1	8.8	7.1	6.0
Clerical and secretarial	14.2	4.7	10.6	8.0	10.4	9.2
Craft and related	33.1	8.0	15.7	16.3	14.0	16.0
Personal and protective services	9.8	..	6.3	4.0	6.6	5.5
Sales	16.6	7.5	12.6	12.2	9.9	13.2
Plant and machine operatives	30.1	8.9	12.8	16.1	13.9	18.1
Other	19.8	6.5	10.4	10.6	10.0	12.4

.. not available.

workforce that has been unemployed at some point in the past five years.(1) Table 4.E shows that the total number of people who experienced at least one spell of unemployment was at its lowest during the period 1986–91 and highest during the period 1983–1988. Although both the level and the percentage have been rising since 1986–91, they are still lower than in the early 1980s.

The number of redundancies per 1,000 employees is another indicator of job security. Table 4.F shows that the redundancy rate of white-collar workers rose slightly between winter 1994 and winter 1995, particularly among managers and administrators. This helped push up the average redundancy rate from 5.5 per thousand in winter 1994 to 10.2 in winter 1995. But the rate is still much lower than the most recent peak of 17.8 recorded in spring 1991.

Although these measures of job security do not suggest any dramatic change over recent years, the penalty attached to losing a permanent job may have increased. The minority of people who lose their job face a labour market increasingly characterised by part-time and temporary jobs. Only 20% of unemployed people who found jobs in 1992/93 found permanent full-time jobs.(2) And real earnings in new jobs taken by those out of work have barely risen since 1980. So even those with permanent jobs may feel that wages and conditions in alternative employment are less attractive, and so may be willing to accept lower wages for a given unemployment rate. In other words, the change in the structure of the labour market may also have increased the effective labour supply at any real product wage.

In addition, the proportion of the employed population with statutory employment rights fell from 55.5% in 1975 to 35.9% in 1993.(3) Much of the fall was due to the increase in the qualification period for employment rights from six months to two years over the period. The latest LFS suggests that the number of people not covered by employment rights increased sharply over the year to spring 1996, with a 3.0% rise in the number of people taking jobs on temporary contracts.

There was, however, one factor which might have pushed up the natural rate of unemployment, at least

(1) This can be done using the ONS longitudinal database, JUVOS, which contains records of 5% of all claims for unemployment-related benefits since 1982.
(2) Gregg, P. and Wadsworth, J. 'A Short History of Labour Turnover, Job Tenure and Job Security, 1975–93', *Oxford Review of Economic Policy*, spring 1995.
(3) *Op cit.*

Chart 4.12
Unemployment-vacancies curve

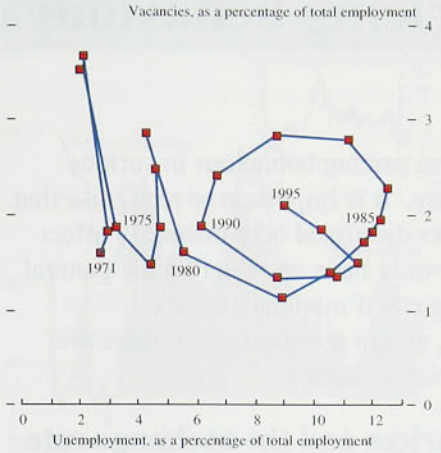
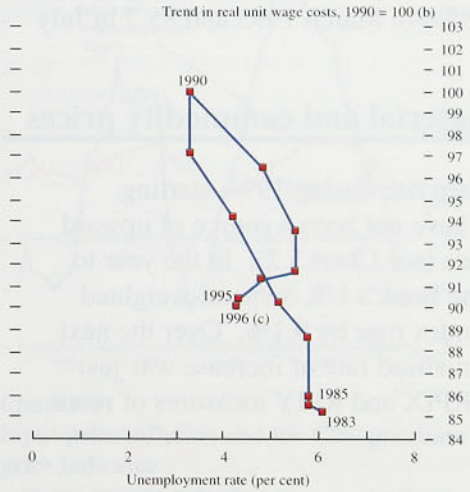


Chart 4.13
Real product wages adjusted for trend productivity and short-term unemployment[a]



Sources: ONS and Bank of England.

(a) Defined as those out of work for up to 52 weeks, expressed as a percentage of the population of working age.
(b) Real product wages adjusted for trend productivity; trend productivity estimated using Hodrick-Prescott filter.
(c) 1996 Q1.

temporarily—a fall in the effectiveness with which the unemployed look for jobs. The relationship between unemployment and vacancies is known as the 'Beveridge Curve'. More effective job searching reduces the number of vacancies for any given level of unemployment and vice versa. The effectiveness of job search depends not only on the jobseeker, but also on the recruitment practices of employers. In the 1960s and early 1970s, the relationship between unemployment and vacancies was fairly stable, but, in the second half of the 1970s and particularly the first half of the 1980s, the curve appears to have shifted out (see Chart 4.12), suggesting that the effectiveness of job search declined. It then started to shift back in 1993. The increase in the vacancy rate for any given unemployment rate was probably linked to the proportion of long-term unemployed.[1] The relationship between real wages and *short-term* unemployment was reasonably stable between 1983 and 1993 (see Chart 4.13). That might have been because employers were less likely to hire those who have been out of work for long periods. The proportion of people out of work for more than a year rose from 34% at the beginning of 1983 to 43% in 1987 Q3 before falling slightly. Indeed, the increase in the proportion of long-term unemployed over the 1980s may have overwhelmed the effect of structural reforms.

4.7 Summary

Demand for labour—measured by hours worked—has not increased over the past few quarters. Measures of labour market tightness which take into account hours worked suggest that the labour market has not tightened since the middle of last year.

Nominal underlying earnings growth increased to 3¾% in February and stayed at that rate in March and April, as bonuses were higher this spring than in spring 1995; it fell back to 3½% in May, as expected. But real earnings growth has been lower over the current recovery than over a similar period during the previous upturn—even though unemployment started to fall much earlier in the current recovery. It is possible that the natural rate of unemployment is lower now than it was in the late 1980s. That explanation would become more plausible if the subdued growth of real product wages were to persist.

(1) See Budd, A, Levine, P, and Smith, P (1988), 'Unemployment, Vacancies and the Long-term Unemployed', *Economic Journal*, Vol. 98.

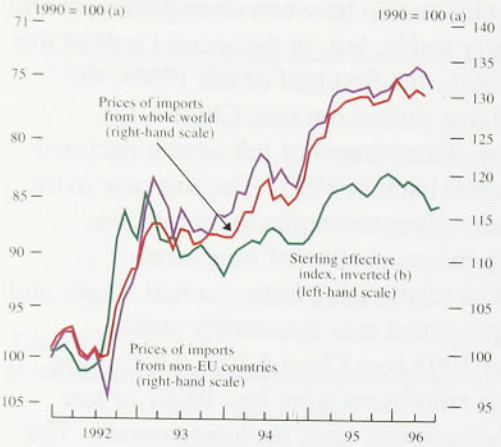
5 Pricing behaviour

This section reports on pricing behaviour in various sectors of the economy. It is important to recognise that the supply-side factors discussed here primarily affect relative prices. They only have an effect on the general price level in the long run if monetary policy accommodates them, and in the short run if there are nominal wage and price rigidities.

5.1 Import prices and the exchange rate

Import prices accelerated in the early part of last year, but subsequent rises have been modest. The twelve-month rate of increase was just 1.7% in May, compared with a peak of 11.0% in August 1995. Movements in the price of foreign currency are part of the explanation (see Chart 5.1); sterling depreciated in 1995 Q1, but the effective index has changed little since then. It averaged 85.6 in March 1995 and 85.7 in July 1996.

Chart 5.1
Import prices and the exchange rate



Sources: ONS and Bank of England.

Note: The ERI is measured against 20 other industrialised countries. The import price index for the whole world covers imports from all countries.

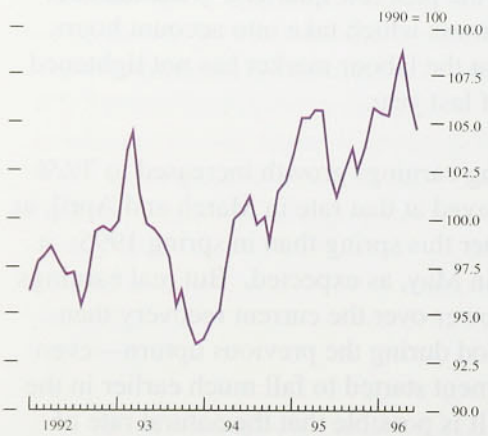
(a) Each scale is logarithmic.
(b) A rise in the line reflects a depreciation.

5.2 Raw material and commodity prices

Following their sharp rise during 1994, sterling commodity prices have not been a source of upward inflationary pressure (see Chart 5.2). In the year to December 1994, the Bank's UK demand-weighted commodity price index rose by 9.1%. Over the next 18 months, the annualised rate of increase was just 1.8%, below RPI, RPIX and RPIY measures of retail price inflation.

Non-perishable commodities—principally metals, fuel and timber—make up around 60% of the Bank's index. Chart 5.3 shows how their relative price has tended to rise and fall with estimates of GDP growth in the G7. But market expectations of future supply and demand conditions are also relevant, because investors who anticipate an increase in price will aim to buy additional stocks now, even though storage costs mean their time horizon can be short. The May *Report* noted that commodity price pressures might re-emerge following news about strengthening activity in the United States and Japan. In the event, copper prices fell sharply, following the disclosure of unexpected losses by the Sumitomo Corporation. This accounted for most of the recent decline in the Economist index (see inset chart).

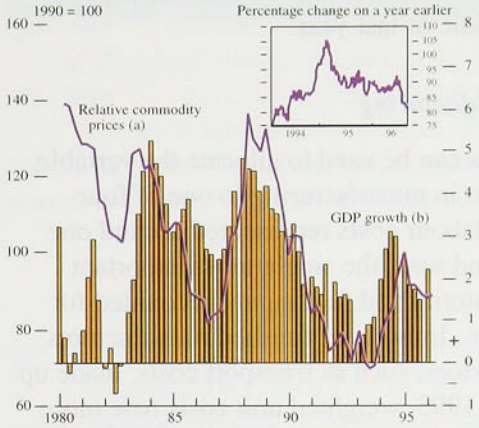
Chart 5.2
Bank sterling commodity price index(a)



Source: Bank of England.

(a) Prices of primary commodities are weighted by their importance in UK demand.

Chart 5.3
Relative commodity prices and GDP growth in the G7



Sources: Bank for International Settlements, The Economist and Bank of England.

(a) Left-hand scale. Based on the Economist all-industries index and priced in SDRs. GDP deflators for each of the five economies whose currencies appear in the SDR basket are used to derive a relative price series. These are interpolated for the inset weekly chart, and projected beyond 1996 Q1.
(b) Right-hand scale.

Chart 5.4
Producer price inflation

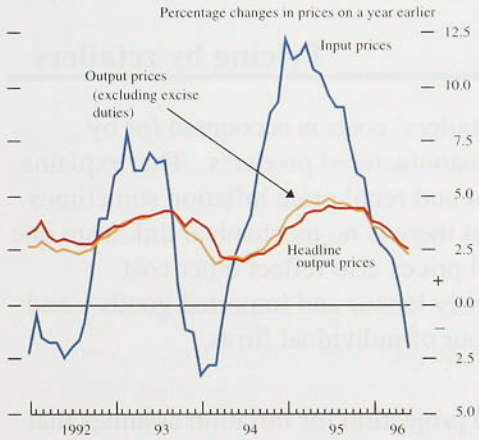
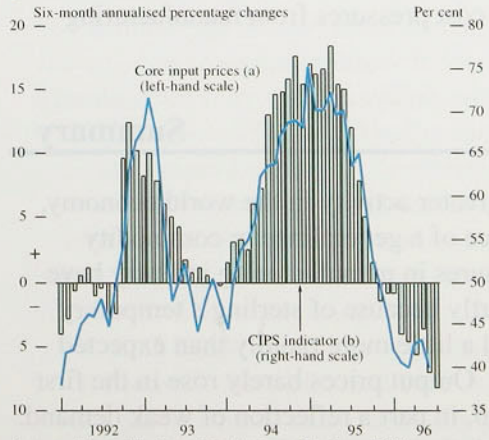


Chart 5.5
Input price inflation and the CIPS purchase price indicator



Sources: Chartered Institute of Purchasing and Supply and ONS.

(a) Excludes purchases by the food, drink, tobacco and petroleum industries.
(b) Respondents are asked to compare the prices of purchases in the current with those in the previous month. A figure above 50% indicates rising prices.

US wheat prices rose by 20% or so in March and April and were noted as an upside risk to retail prices in the May *Report*. Subsequently, weather conditions improved so that, by the end of July, the price of winter wheat had fallen a little below levels seen around the turn of the year. Bakery products are only a small part of the RPIX basket and the impact of this temporary price rise on measured inflation has been small.

5.3 Pricing by production industries

Manufacturers' input costs fell by 2.0% in the twelve months to June—a marked change from the high rates of increase seen at the beginning of last year (see Chart 5.4). When purchases of the food, drink, tobacco and petroleum industries are excluded, the level of input prices has declined for eleven consecutive months.

A survey by the Chartered Institute of Purchasing and Supply (CIPS) also reported that raw material costs have fallen this year. Its price indicator fell to 37.7 in July, the weakest number since the survey began five years ago. The index is calculated as the percentage share of manufacturers reporting an increase in the price of their purchases, plus half the share who experienced no change—so outturns below 50 suggest falling prices. These data are a useful indicator of input price inflation prior to the publication of the ONS series (see Chart 5.5).

Annual output price inflation was stable at around 4½% in the second half of 1995, but fell steadily during the early part of 1996, reaching 2.6% in June. In May, the ONS introduced a new output price series that excludes excise duties—analogous to the RPIY measure of retail price inflation outlined in Section 1. The new output price series rose a little more slowly in the early part of this year than the headline index (see Chart 5.4). Taxes increased faster than the prices charged by manufacturers for their output.

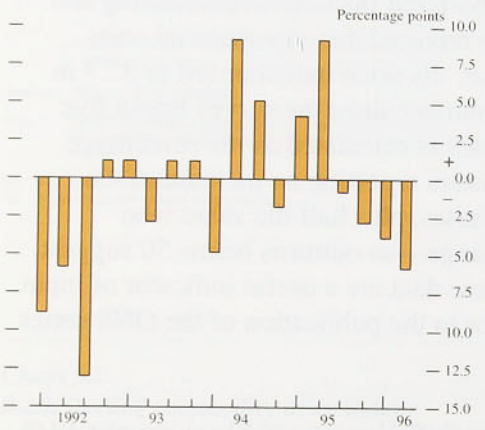
Table 5.A provides short-run inflation measures, which illustrate the recent weakness of cost pressures in manufacturing industry. Output prices barely rose in the first half of 1996. It seems likely that many firms, faced with weak demand and possibly an overhang of unwanted stocks, decided not to charge more—a view expressed in reports from the Bank's Agents. More evidence is provided by the CBI Quarterly Industrial Trends survey, in which manufacturers are asked not only to describe pricing decisions over the past four

Table 5.A
Short-run measures of producer price inflation[a]

	1996 Jan.	Feb.	Mar.	Apr.	May	June
Three-month annualised percentage changes						
Input prices	-2.4	-2.1	-1.7	2.5	-1.0	-7.1
- excluding FDTP (b)	-5.1	-4.5	-5.9	-4.5	-4.2	-7.3
Output prices (c)	4.7	3.3	0.9	1.3	1.3	0.7
- excluding FDTP (b)	1.7	1.0	1.0	1.3	1.0	0.7
- excluding excise duties	2.3	2.3	1.7	2.0	1.3	1.0
One-month percentage changes						
Input prices	-0.4	-0.3	0.3	0.6	-1.1	-1.3
- excluding FDTP (b)	-0.5	-0.5	-0.4	-0.2	-0.4	-1.3
Output prices (c)	—	—	0.2	0.1	—	0.1
- excluding FDTP (b)	—	0.1	0.2	0.1	—	0.1
- excluding excise duties	0.1	0.2	0.2	0.2	—	0.1

(a) Seasonally adjusted by the ONS, except where noted.
(b) FDTP are food, drink, tobacco and petroleum.
(c) The ONS does not publish a seasonally adjusted headline output price series. To retain excise duty effects, these data are based on the seasonally adjusted tax-exclusive output price series multiplied by the ratio of unadjusted tax-inclusive to tax-exclusive prices.

Chart 5.6
Mismatch between CBI price expectations and outturns[a]



Source: CBI.

(a) Balance of respondents reporting an increase in the price at which their domestic orders were booked over the past four months minus the balance expecting a rise in the previous survey. Data are reported as deviations from the long-run average.

Table 5.B
Rates of change of manufacturers' costs and prices

Percentage changes compared with the previous period

	1994 Year	1995 Year	Q4	1996 Q1	Mar.-May (a)
Unit costs					
Unit labour costs	0.3	2.5	1.8	0.9	-0.2
of which: (b)					
Average earnings	4.7	4.5	1.1	1.6	0.8
Productivity	4.7	1.3	-0.7	0.4	1.2
Materials and fuels (including semi-finished manufactured imports)	3.7	10.8	-1.8	-1.3	-1.2
Imports of finished manufactures	4.1	8.7	1.4	0.3	-0.9
Services	3.4	1.7	0.5	0.6	0.7
Weighted unit costs	**2.1**	**4.9**	**0.7**	**0.3**	**-0.4**
Output prices (c)	**2.3**	**4.4**	**0.7**	**0.3**	**0.3**

Sources: ONS and Bank of England.

(a) Compared with the previous three months.
(b) Unit labour costs also include employers' National Insurance Contributions. These do not appear separately in the table.
(c) Domestic sales.

months, but also to outline plans for the future. Chart 5.6 shows that respondents, on balance, had more difficulty than usual in achieving desired output price rises from the middle of last year.

Unit costs in manufacturing

Input-output tables can be used to allocate the variable costs of production in manufacturing to one of four sources. In 1989 labour costs represented around one half of the total, and were the single most important category. Raw material and fuel inputs accounted for around one quarter. Imports of finished manufactures and bought-in services, such as transport costs, made up the remainder. In 1995, weighted unit costs rose more rapidly than output prices (see Table 5.B). But the reverse was true in the three months to May, compared with the previous three months. Manufacturers may have seen a modest improvement in margins, as productivity growth increased and raw material costs continued to fall.

5.4 Pricing by retailers

A proportion of retailers' costs is accounted for by purchases of UK-manufactured products. That explains why rates of output and retail price inflation sometimes move together. But there is no mechanical link from one to the other. Retail prices also reflect other cost components—notably labour and imported goods—and the pricing behaviour of individual firms.

The Bank's central projection for inflation assumes that increased competition has led to a structural fall in retail margins. But there is a risk that firms may try to expand their margins as consumer demand continues to rise, thus offsetting weaker cost pressures from manufacturing industry.

5.5 Summary

Despite signs of greater activity in the world economy, there is no evidence of a general rise in commodity prices. Cost pressures in manufacturing industry have eased further—partly because of sterling's temporary appreciation—and a little more rapidly than expected three months ago. Output prices barely rose in the first six months of 1996, in part a reflection of weak demand. Lower retail price inflation may follow, but only if other cost components do not accelerate and retailers' margins remain unchanged.

Prospects for inflation 6

6.1 Developments in prices, aggregate demand and supply

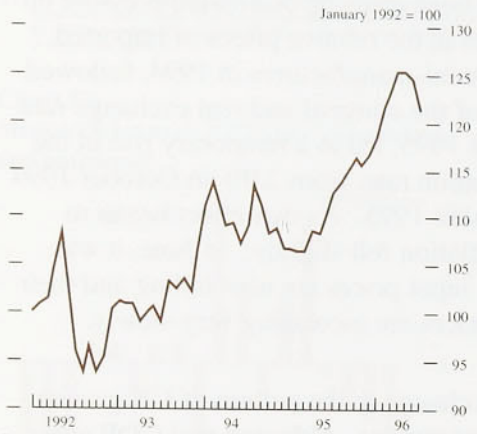
Real GDP has grown at a rate of around ½% in each quarter since the beginning of 1995, a little below the long-run trend. As a result, the output gap may have widened a little. Spare capacity and unemployment in the economy have been exerting downward pressure on inflation. The rises in the relative prices of imported commodities and semi-manufactures in 1994, followed by a depreciation of the nominal and real exchange rate at the beginning of 1995, led to a temporary rise in the twelve-month inflation rate, from 2.0% in October 1994 to 3.1% in September 1995. As that effect began to wear off, RPIX inflation fell slightly; in June, it was 2.8%. Producers' input prices are now falling and their domestic output prices are increasing very slowly.

The evidence of a change in the pattern of UK growth mounted in the past quarter. Although real GDP grew by 0.4% in each of 1995 Q4, 1996 Q1 and 1996 Q2, real domestic demand accelerated. Its quarterly growth rate doubled between the last quarter of 1995 and the first quarter of 1996, and the signs are that the pick-up, particularly in consumption, continued in the second quarter. Retail sales volumes grew by 1.3% in Q2, more than three times as much as in Q1. Consumer confidence improved in the quarter, and the CBI Distributive Trades Survey confirmed the pick-up in retail demand. The strength of consumer demand was reflected in further increases in house prices and a slight pick-up in activity in the housing market: turnover, net lending secured on homes, new mortgage commitments, and reservations on new homes were all higher in Q2. Private investment, like consumption, accelerated in the first quarter of this year.

Looking ahead, it is likely that domestic demand growth will increase further and will begin to be reflected in higher output growth—above the long-run trend—in the second half of this year and into 1997. Consumption growth is likely to be stimulated by several factors, including faster growth of real pre-tax earnings, lower income tax rates and income gearing on personal sector debt, and a higher level of financial wealth in relation to

income. The extent to which individuals treat such factors as permanent will vary, and is uncertain, but even increases in income regarded as temporary—for instance, windfall gains such as the payouts by building societies giving up their mutual status—are likely to boost spending on durable goods this year. The rise in house prices and the rapid growth of real money balances held for transactions purposes—personal sector Divisia—corroborate the view that consumer spending is likely to accelerate.

Chart 6.1
Equity prices relative to gilt prices[a]



Sources: Financial Times and Bank of England.

(a) FT-SE All-Share index relative to price of 2.5% Index-linked Treasury 2009.

Investment is also likely to increase, although it is normally more volatile than consumption, and the timing of any further recovery is uncertain. Although the profitability of ICCs has probably fallen this year, their stock market valuation has increased faster than the prices of index-linked gilts, implying that higher profit rates—and a higher return on investment—are expected, not just lower real interest rates (see Chart 6.1). More manufacturing firms than last quarter expect plant capacity to constrain their output. Some industries may not share in the expansion: HM Treasury's Summer Forecast projects general government investment to fall further, and there is little sign yet of any recovery in investment in non-housing buildings and works. But the rapid growth of corporate sector M4 deposits, like that of personal sector deposits, is consistent with an acceleration of spending.

Accelerating domestic demand will stimulate activity and narrow the output gap. Net trade is likely to make a lower contribution to growth than it did earlier in the recovery. If the increase in the pace of growth persists in the medium term as expected, upward pressure on inflation will develop and the output gap will close.

In the near term, the two main risks to that outlook remain the behaviour of stockbuilding and exports, as pointed out in earlier *Inflation Reports*. First, although recorded stockbuilding has fallen back since 1995 Q3, there is still a downside risk to output because the aggregate stock-to-sales ratio has risen, against the downward trend seen since the early 1980s (see Chart 3.9). Increases in consumption might be satisfied from existing stocks, leaving output growth temporarily subdued, and investment may be postponed until stock-to-sales ratios have been reduced. The risk is exacerbated by the possibility that stockbuilding has been underrecorded—a potential explanation for the ONS' statistical adjustment which aligns output-based and expenditure-based measures of GDP. But many of

the stocks may now be held willingly, in anticipation of a further acceleration of domestic demand. Surveys and reports from the Bank's Agents do not suggest that unwanted stocks are a widespread problem. Thus far, stockbuilding has been consistent with the central projection and output growth has not been depressed much below trend. The downside risk is less than in May, but is nevertheless still present.

The second near-term risk concerns UK export markets: prospects for demand growth in continental Europe remain uncertain. A recovery is likely this year, but the downside risk—less than in May—is that it might take longer to arrive. As with stockbuilding, evidence about net exports in the first quarter was broadly consistent with the central projection in the May *Report*. Gross exports grew more rapidly than expected, partly because first-quarter GDP growth in the G10 (UK trade-weighted) was stronger than expected. But import growth was surprisingly high, too, given the stocks of goods held by UK manufacturers.

Those short-term risks affect the timing of the acceleration of demand. Two medium-term risks affect the impact of demand on inflation.

First, real wages have grown more slowly in the 1990s than the 1980s. One of the risks to the central projection is that a change in the relationship between unemployment and real wage growth might, for a given monetary stance, lead in the short run to lower wage and price inflation. Real product wages—the cost to the firm of employing a worker (deflated by the GDP deflator at factor cost)—rose at an annualised rate of under 1% between 1992 Q4, when unemployment peaked, and 1996 Q1, despite a fall of over 700,000 in claimant unemployment over that period. If the risk materialised, wage settlements would fall, domestically generated inflation would be lower than expected, and the scope for non-inflationary output expansion would be greater.

A second supply-side issue is the behaviour of margins. Changes in margins can lead to one-off changes in the general price level when there is imperfect competition in product markets. Margins depend on three main factors: the degree of product-market competition, the state of the business cycle and firms' tendency not to adjust selling prices as soon as particularly volatile costs change. Increased competition among retailers has helped to bring down retail margins in the past four years; they started out higher than in most other countries, so the decline will probably be sustained. But

Chart 6.2
Current RPIX inflation projection

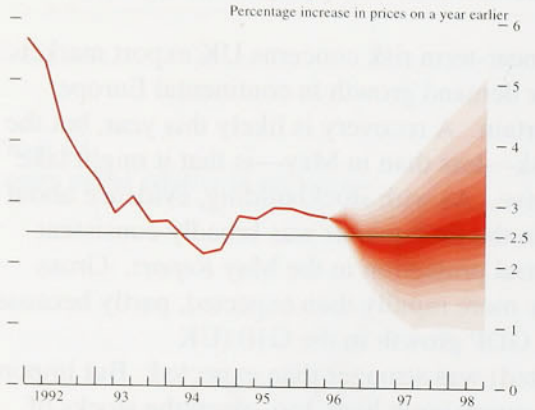
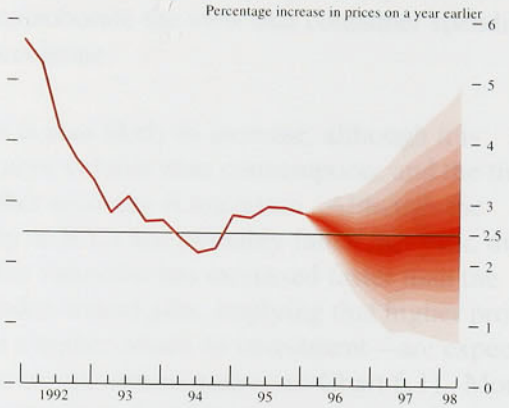


Chart 6.3
RPIX inflation projection in May



The chart shows the relative likelihood of possible outcomes. The central band, coloured deep red, includes the central projection: there is judged to be about a 10% chance that inflation will be within that central band at any date. The next deepest shade, on both sides of the central band, takes the distribution out to 20%; and so on, in steps of ten percentage points. Of course, it is impossible to assess the probabilities with any precision, but this represents the Bank's best estimate. The more uncertainty there is about the inflation outcome at any particular time horizon, the wider the bands, and the more gradually the colour fades. And, if the risks are more on one side than the other, then the remaining bands will be wider on that side of the central band.

the risk is that the decline has been wrongly attributed to a lasting increase in competition and instead took place because levels of demand were low or selling prices were adjusting slowly to cost increases. Neither of those two factors are expected to persist.

6.2 The Bank's medium-term inflation projection

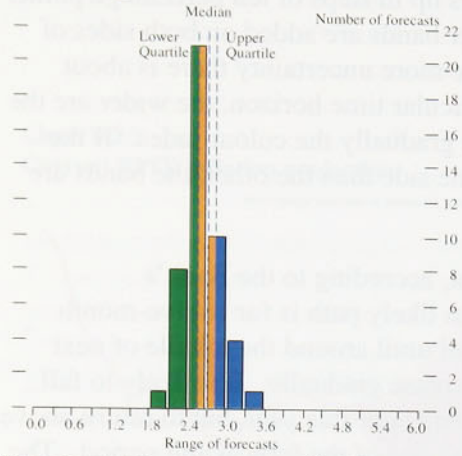
The Bank's medium-term projection of twelve-month RPIX inflation is shown in Chart 6.2, next to last May's projection, shown in Chart 6.3. Official interest rates are assumed to remain unchanged over the next two years, and the sterling effective exchange rate is assumed to evolve according to differences in nominal interest rates across countries. Real public spending and effective tax rates are projected to follow the profiles set out in HM Treasury's Summer Forecast. Chart 6.2 shows the Bank's assessment of the probability distribution for inflation outturns, in order to emphasise the degree of uncertainty surrounding them. The central projection lies in the central band—the one with the darkest

shading. In the Bank's judgment, there is about a 10% chance that inflation will be within that band at any time. The probability goes up in steps of ten percentage points as successively paler bands are added on both sides of the central one. The more uncertainty there is about inflation at any particular time horizon, the wider are the bands and the more gradually the colour fades. If the risks are more on one side than the other, the bands are wider on that side.

Chart 6.2 shows that, according to the Bank's assessment, the most likely path is for twelve-month RPIX inflation to fall until around the middle of next year, and then to increase gradually. It is likely to fall below 2½% some time later this year, but to return above that level towards the end of the forecasting period. The fall in inflation in the near term is consistent with the current degree of spare capacity and unemployment in the economy, and the unwinding of supply shocks from imported input prices and the exchange rate around the beginning of 1995. Inflation is expected to increase subsequently, as the result of the above-trend growth first of nominal domestic demand, and then of output, in the second half of this year and continuing into 1997. Compared with that presented in the May *Report*, the current central projection—which is extended by one quarter to 1998 Q3—is for slightly higher inflation. The main reasons for that increase are lower interest rates since May, the new Treasury forecasts for taxes and public spending, and the slightly better-than-expected gross export performance in the first half of the year.

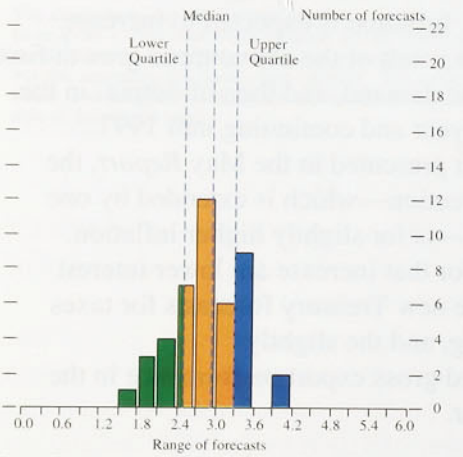
The risks around the central projection are distributed differently in the short and medium terms, as the shading in Chart 6.2 indicates. In the short term, the downside risks still just outweigh the upside ones, even though the uncertainties about stockbuilding and recovery in Europe have diminished somewhat since the May *Report*. Further ahead, the risks are skewed towards the upside, as they were in May: it is more likely that several components of domestic demand will pick up strongly at the same time than that some components will not increase at all. The supply-side factors discussed above—the natural rate of unemployment and margins—increase uncertainty: the former raises the downside and the latter the upside risks. On balance, the chances of hitting the Government's inflation target have fallen since May, and it is somewhat more likely than it was then that twelve-month RPIX inflation will be above 2½% in two years' time if official rates remain unchanged during that period.

Chart 6.4
Distribution of RPIX inflation forecasts for 1996 Q4



Source: Forecasts of 45 outside forecasters as of July 1996.

Chart 6.5
Distribution of RPIX inflation forecasts for 1997 Q4



Source: Forecasts of 45 outside forecasters as of July 1996.

Table 6.A
Expected RPIX inflation[a]

	Range				
	Less than 1.0%	1.0% to 2.5%	2.5% to 4.0%	4.0% to 5.5%	More than 5.0%
1996 Q4	2	43	50	4	1
1997 Q4	4	29	49	15	3

(a) 29 outside forecasters provided the Bank with their assessments of the likelihood, at two time horizons, of expected twelve-month RPIX inflation falling in the ranges shown above. This table presents the means of the responses for each range; for example, on average, forecasters assign a probability of 2 to inflation turning out to be less than 1% in 1996 Q4. Rows may not sum to 100, because of rounding.

6.3 Other inflation projections

Most measures of inflation expectations monitored by the Bank have not changed much since the May *Inflation Report*. The median forecasts for twelve-month RPIX inflation in 1996 Q4 are still 2.7% and, for inflation in 1997 Q4, 2.9% (see Charts 6.4 and 6.5). Those are higher than the Bank's central projections. The interquartile range—the range of central projections excluding the highest and lowest quarters of the distribution—narrowed to 2.5%–2.8% for 1996 Q4. Unusually, the spread of views for 1997 Q4 has not narrowed despite the reduction in the forecasting horizon: the interquartile range has widened slightly to 2.5%–3.3%.

A subset of forecasters provided the Bank with the probabilities they attach to various possible inflation outcomes (see Table 6.A). The range of uncertainty around most forecasters' central projections remains similar to the range around the Bank's. The average probability attached to RPIX inflation being 2½% or below in 1996 Q4 is 45% (up from 40% in May); for 1997 Q4, the corresponding figure is 33% (up from 31% in May). Those probabilities are lower than implied by the Bank's projection in Chart 6.2.

The inflation expectations reported in the Barclays Basix Survey of different groups and the Merrill Lynch-Gallup survey of UK fund managers have changed very little, as Tables 6.B and 6.C show. The only change of more than 0.1 percentage points since the previous *Report* is in the expectations of trades union general secretaries about inflation in two years time, which have fallen.

Expectations about inflation in the longer term have fallen a little since the May *Report*, judging by the measures derived from a comparison of conventional and index-linked gilt prices (Chart 6.6). The measures may overestimate expected inflation if there is a substantial inflation risk premium in the yield on conventional gilts. But they are sufficiently above 2½% to suggest that there is still considerable scepticism about the determination with which price stability will be pursued in the long term. Even over a two-year horizon, other inflation projections and surveys suggest that the inflation target is more likely to be missed than hit.

6.4 Conclusions

Retail price inflation remains above the Government's target. But cost pressures are very weak—input prices,

Table 6.B
Barclays Basix Survey expectations

Percentage increases in prices

Twelve-month RPI inflation one year ahead

	Mar. 1996	June 1996
General public	3.9	3.8
Business economists	2.8	2.9
Finance directors	3.0	3.0
Investment analysts	3.1	3.1
Academic economists	3.1	3.0
Trade unions	3.2	3.1

Twelve-month RPI inflation two years ahead

	Mar. 1996	June 1996
General public	4.5	4.6
Business economists	3.6	3.6
Finance directors	4.0	4.0
Investment analysts	4.2	4.1
Academic economists	3.6	3.6
Trade unions	4.4	4.1

Source: Barclays Bank.

Table 6.C
Merrill Lynch-Gallup survey of UK fund managers

Percentage increases in prices

Twelve-month RPI inflation at	1996 Mar.	Apr.	May	June	July
End-1996	2.8	2.9	2.9	2.8	2.8
End-1997	3.2	3.3	3.4	3.4	3.4

Source: Merrill Lynch-Gallup.

Chart 6.6
Implied forward inflation rates(a)

Source: Bank of England.

(a) Calendar-month average.

excluding those of the food, drink, tobacco and petroleum industries, have fallen for eleven consecutive months, and earnings growth is unchanged from the time of the May *Report*. The short-term prospect is for a further fall in the inflation rate. As the increases in retail prices last summer drop out of the twelve-month comparison, RPIX inflation is likely to fall below 2½% to within the target over the next six months or so.

Since the beginning of the year, the changing pattern of economic expansion has become apparent. Following departure from the ERM in September 1992, a rebalancing of monetary and fiscal policy—an easier monetary and a tighter fiscal stance—led to a lower real exchange rate and a shift of resources from growth of domestic consumption to net exports, and an export-led recovery up to 1995. Over the past year, that pattern of recovery has been reversed. Excluding stockbuilding, domestic demand, especially consumption, is growing strongly and net trade is no longer making a significant contribution to output growth. As a result, service sector output has risen at about ¾% a quarter and manufacturing output has been broadly flat over the past year. The picture of accelerating domestic demand is reinforced by continuing rapid monetary growth and the outlook for the public finances.

For the current financial year, the general government deficit is projected to be 4% of GDP, nearly two percentage points more than anticipated only 21 months ago in the 1994 Budget (see Chart 3.13). In part, that reflects the fact that output remains below trend. In the longer term, however, such deficits cannot be reconciled with hitting the inflation target as well as maintaining a sustainable fiscal position.

Faster demand growth will, after a lag, stimulate domestic output. Consumption probably grew at an annualised rate of 4% or more in the first half of 1996 and there is every prospect of further rapid growth for some time. Business optimism has risen and other survey responses signal an increase in orders and activity. Annual real broad money growth has now been above 5% for four quarters. Looking ahead, output looks set to accelerate. Nevertheless, the short-term risks to activity identified in recent *Reports*—a run-down in stocks and continuing weak demand on the Continent—held back growth in the first part of the year and have not yet disappeared.

Hence the Bank's latest view on inflation two years ahead shows a central projection for RPIX inflation a

little above 2½% and rising, with the risks more on the upside than the downside. That is a slightly worse prospect than in May. In the near term the outlook for inflation is benign. But rapid money growth will stimulate demand and output, reduce spare capacity and lead, ultimately, to higher inflation. Of course, it is difficult to know when the upturn in money and demand growth will lead to inflationary pressures, and the major uncertainty about the central projection is the question of timing. But the implication of the projection is that a tightening of monetary policy will be necessary at some point to achieve a better-than-even chance of keeping inflation below 2½% in the medium term. With such a favourable short-term outlook—of faster growth and falling inflation—there is always a temptation to ignore the consequences of faster growth of money and activity for inflation until inflation itself has started to rise. By then, however, it would be too late to prevent a sharper policy correction that would be more damaging to stability than an earlier pre-emptive move.

Glossary and other information

Glossary of selected terms

RPI inflation: inflation measured by the retail prices index.
RPIX inflation: inflation measured by the RPI excluding mortgage interest payments.
RPIY inflation: inflation measured by the RPI excluding mortgage interest payments and the following indirect taxes: council tax, VAT, duties, car purchase tax and vehicle excise duty, insurance tax and airport tax.
HARP index: a price index which replaces the mortgage interest payments component of the RPI with a Bank estimate of the user-cost of housing.
THARP index: the HARP index excluding indirect taxes.

M0: notes and coin in circulation outside the Bank of England and bankers' operational deposits at the Bank.
M4: UK non-bank, non-building society private sector's holdings of notes and coin, together with all sterling deposits (including certificates of deposit) held with UK banks and building societies by the non-bank, non-building society private sector.
Divisia money: a measure of the money stock in which each component is weighted according to an estimate of how useful are the transaction services it provides.

SDR: special drawing right. A basket of five currencies—the dollar, yen, Deutsche Mark, sterling and franc. Weights are reviewed periodically by the IMF.
ICCs: industrial and commercial companies.
OFIs: other financial institutions.
BSE: bovine spongiform encephalopathy.
TESSA: tax-exempt special savings account.

Three-month annualised: the percentage change in a series between one period and that three months earlier, expressed as an annual rate.

Symbols and conventions

Except where otherwise stated, the source for the data used in charts and tables is the Office for National Statistics (ONS).
The measures of inflation included in this *Report* have been adjusted by the Bank for a ONS error in underrecording RPI and RPIX inflation between February and May 1995.
. . not available.
— nil or less than half the final digit shown.
Because of rounding, the sum of the separate items may sometimes differ from the total shown.
On the horizontal axes of graphs, larger ticks denote the first observation within the relevant period, eg data for the first quarter of the year.

Other information

Email: madiv5@dircon.co.uk
The Summary of this *Report* is available at:
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