

# Inflation Report

May 1997

<b>Summary</b>	3
<b>1 Recent developments in inflation</b>	5
<b>1.1 Retail price measures</b>	5
<b>1.2 Other price indices</b>	6
<b>1.3 Expenditure deflators</b>	8
<b>1.4 Summary</b>	8
<i>Box: Harmonised consumer price indices</i>	7
<b>2 Money, interest rates and exchange rates</b>	9
<b>2.1 Money</b>	9
Personal sector	10
Industrial and commercial companies	11
Other financial institutions	11
Divisia money	11
Narrow money	12
<b>2.2 Credit</b>	12
Personal sector	13
Industrial and commercial companies	13
Other financial institutions	13
<b>2.3 Interest rates and exchange rates</b>	14
Short-term interest rates	14
Long-term interest rates	15
Exchange rates	15
<b>2.4 Summary</b>	17
<i>Box: Operational independence for the Bank</i>	16
<b>3 Demand and output</b>	18
<b>3.1 Domestic demand</b>	18
Consumption	19
Investment demand	22
Stockbuilding	24
Public sector demand	24
<b>3.2 Net external demand</b>	25
<b>3.3 Output</b>	27
<b>3.4 Summary</b>	27
<i>Box: Discrepancies between the three measures of GDP</i>	20

<b>4</b>	<b>The labour market</b>	29
4.1	Demand for labour	29
4.2	Labour market tightness	30
4.3	Nominal earnings	32
4.4	Real earnings	34
4.5	Summary	36
<b>5</b>	<b>Pricing behaviour</b>	37
5.1	Import prices and the exchange rate	37
5.2	Raw material and commodity prices	38
5.3	Costs in the service sector	38
5.4	Costs and prices in manufacturing	39
	Pricing in manufacturing	40
5.5	Costs and prices in retailing	40
5.6	Summary	41
<b>6</b>	<b>Prospects for inflation</b>	42
6.1	The economic news	42
6.2	The further appreciation of sterling	43
6.3	The Bank's medium-term projection	46
6.4	Outside forecasters	49
6.5	Conclusions	50

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## Summary

The appreciation of sterling means that output is likely to grow less fast than domestic demand. Nevertheless, domestic demand growth is sufficiently strong—at around 4% a year—that output growth is likely to remain above trend. That will lead to rising pressure on production resources, including labour, and, in due course, rising retail price inflation.

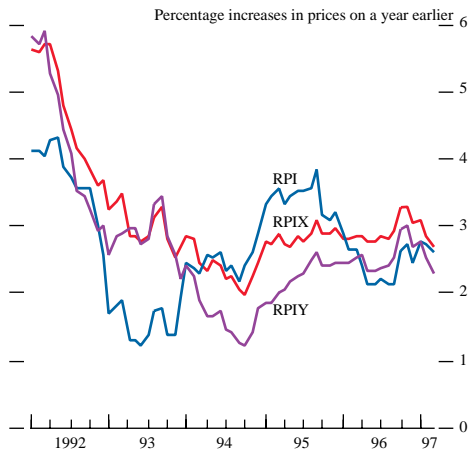
The short-run outlook for inflation is favourable. That is not surprising. A rise in sterling should lead to a temporary fall in inflation, so that a monetary policy which was on track to hit the inflation target two years ahead would imply an inflation rate of well below 2½% in the second half of this year. Hitting the target only because of a favourable one-off shock to the price level conceals the need to take action to remain within the target when the first-round effect of the sterling appreciation on the domestic price level has worn off.

More important for the stance of monetary policy now is the prospect two years ahead. Despite the rise in the exchange rate, inflation is more likely than not to be above the target two years or so ahead unless action is taken to slow the pace of expansion. That is why the Bank has argued for several months that a tightening of monetary policy was necessary. The ¼% rise in interest rates earlier this month was an appropriate step in that direction. And the transfer of operational responsibility for setting interest rates to the Bank of England should improve the credibility of monetary policy. The announcement of that change lowered inflation expectations in the longer term by around half a per cent. But the central projection for inflation, and the risks surrounding it, suggests that, on the present evidence, there is still likely to be a need for some further moderate tightening of policy in the months ahead.

# Recent developments in inflation

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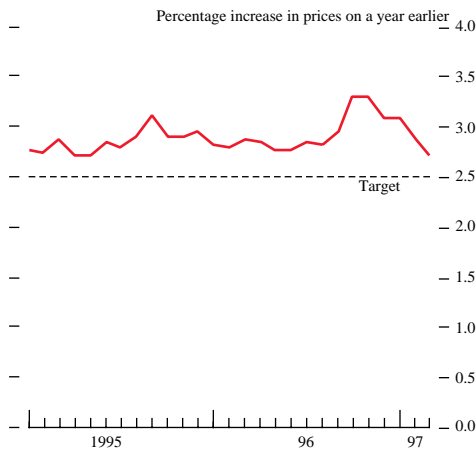
**Chart 1.1**  
Inflation<sup>(a)</sup>



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

(a) Adjusted by the Bank of England for an ONS error in under-recording 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.

**Chart 1.2**  
RPIX inflation



Sources: ONS and Bank of England.

## 1.1

## Retail price measures

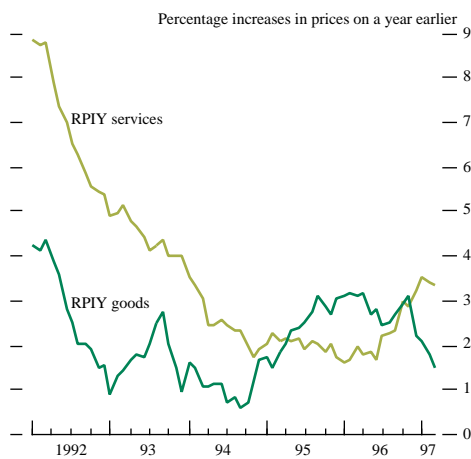
The twelve-month change in retail prices excluding mortgage interest payments (RPIX) was 2.7% in March, down from 3.3% at the end of last year (see Chart 1.1). It takes two years for monetary policy to have its maximum effect on inflation. The inflation target was introduced towards the end of 1992, and the first *Inflation Report* was published in February 1993. Chart 1.2 shows that since January 1995 RPIX inflation has been persistently above the target of 2½% or less.

In March, RPIX inflation was higher than other measures of retail price inflation. The twelve-month change in RPIY, which excludes indirect taxes as well as mortgage interest payments, was 2.3%. RPIX inflation has been higher than RPIY inflation since the end of 1993 because excise duties and council tax have risen faster than RPIY inflation. The twelve-month headline inflation rate (RPI) was 2.6% in March.

Chart 1.3 shows that since the end of last year there has been a sharp divergence between goods and service price inflation. Broadly speaking, goods are more subject than services to international competition, which may explain part of this recent divergence. For example more than 80% of consumers' spending on electronic goods, footwear and toys is on imports, but the percentage is less than 20% for financial and telecommunication services. So in the short run, lower import prices are more likely to reduce retail goods prices than service prices. Between August and February (the latest date for which import price data for all goods trade were available at the time of this *Report*) imported goods prices fell by 3.6% and annual RPIY goods price inflation fell from 2.5% to 1.8%.

Import prices affect retail price inflation only in the short run. Over a longer period—one or two years—demand is a more important influence and, in the long run, money growth determines inflation. Sometimes these factors do not work in the same direction, which may explain why the link between changes in the exchange rate and goods price inflation does not seem close (see

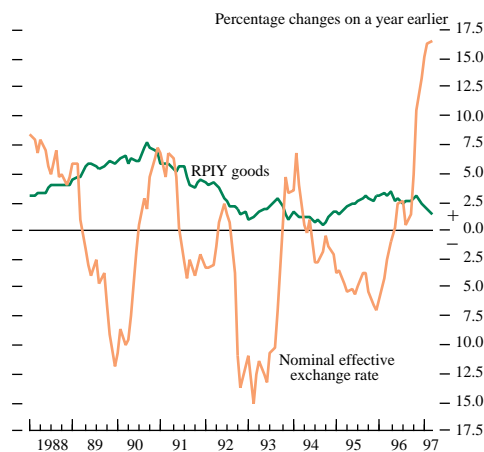
**Chart 1.3**  
RPIY goods and services inflation<sup>(a)</sup>



Sources: ONS and Bank of England.

(a) Housing depreciation is included in services; the ONS exclude housing depreciation from their measure of service sector inflation.

**Chart 1.4**  
RPIY goods inflation and the nominal effective exchange rate



Sources: ONS and Bank of England.

**Table 1.A**  
Three-month measures of inflation<sup>(a)</sup>

Annualised percentage changes

	1996			1997		
	June	Sept.	Dec.	Jan.	Feb.	Mar.
RPI	1.6	2.4	4.4	4.5	3.9	2.0
RPIX	2.2	2.9	4.4	3.7	3.1	1.2
RPIY	2.0	3.3	2.5	2.1	1.6	1.6

Source: ONS and Bank calculations.

(a) RPIY data are seasonally adjusted and annualised by the Bank. RPI and RPIX are obtained by multiplying the ratios of RPI to RPIY, and of RPIX to RPIY, by seasonally adjusted RPIY. This removes most seasonal effects, but not those induced by tax changes. RPI and RPIX are also annualised.

Chart 1.4). But the recent divergence of goods and service price inflation probably reflects relative demand pressure as well as lower import prices. Service sector output grew by 6.6% in the two years to 1996 Q4, nearly four times as much as manufacturing production. Over the same period, service sector capacity utilisation rose significantly, according to the British Chambers of Commerce Survey, to its highest level since the Survey began in 1989, whereas manufacturing capacity utilisation fell a little.

Changes in price indices over less than twelve months show more recent developments in inflation, but are more volatile than twelve-month changes. On a seasonally adjusted three-month annualised basis, RPI and RPIX inflation rose towards the end of last year but fell sharply in March (see Table 1.A). The rises were largely because of increases in excise duties in the November 1996 Budget, which have now dropped out of the three-month change; the short-run measure of RPIY inflation was not affected.

## 1.2 Other price indices

The Bank has constructed housing-adjusted versions of RPIX and RPIY (HARP and THARP respectively) that include a measure of owner-occupied housing costs. These inflation rates have been higher than RPIX and RPIY inflation for nearly a year because the recovery in house prices has pushed up owner-occupied housing costs (see Table 1.B).

Harmonised consumer price indices (HICPs) have been calculated by EU Member States to allow better cross-country comparisons of inflation rates. HICPs are explained in the box on page 7. Annual inflation measured by the UK HICP was 2% in February, lower than measures based on the retail price indices, and close to the average HICP inflation rate in other Member States. In March, UK HICP inflation fell to 1.8%; March data for some of the other Member States were not published at the time this *Report* was finalised.

Some individual prices are reset infrequently because price adjustment is expensive. This can lead to volatility in measured inflation, even when firms and consumers expect the general price level to rise at a steady rate. The Bank has constructed two indices that limit these effects: the median and trimmed mean indices.<sup>(1)</sup>

(1) The monthly changes in the 81 components of RPIX are weighted according to their importance in the expenditure of a 'typical' household and are then ranked by size. The median is the rate above which half of the resulting distribution lies. The trimmed mean removes the largest and smallest 15% of price changes.

## Harmonised consumer price indices

Harmonised indices of consumer prices (HICPs) have been calculated in each Member State of the European Union. They allow better international comparison of inflation and will be used to judge whether Member States meet the Maastricht Treaty convergence criterion on price stability. HICPs succeed the interim indices of consumer prices (IICPs) launched last year as the first stage of the harmonisation process.<sup>(1)</sup> Some Member States have not yet adopted all of the recommended steps involved in calculating HICPs. The table below compares HICP inflation rates in February with headline rates for the EU Member States.

UK inflation, measured by the HICP, was close to the unweighted mean and median of all 15 Member States' HICP inflation rates, shown in the table.

HICPs differ from national indices of consumer prices in two ways: method of calculation and coverage. The basket of goods and services included in the UK HICP represents 87% of the RPI basket. The main items excluded relate to housing, council tax and NHS prescriptions. But the UK HICP also includes items not in the RPI—airfares, personal computers and new cars.<sup>(2)</sup> Work on the harmonised indices is continuing: housing items are likely to be included in due course.

The difference between HICP and headline inflation rates is particularly large in Sweden and the United Kingdom (see the table). In Sweden, the difference is mainly

accounted for by the exclusion of housing from the HICP: Swedish mortgage interest costs fell by around 15% in the year to February 1997. In the United Kingdom, differences in coverage account for about half of the 0.7 percentage point gap between RPI and HICP annual inflation in February. The remaining difference is explained by the use of a geometric mean formula to aggregate prices in HICPs.<sup>(3)</sup> The ONS uses arithmetic mean formulae in constructing the RPI. The Boskin Commission's report on the US consumer price index recommended the adoption of a geometric mean.

### Measures of annual inflation

Percentage change in February 1997 on a year earlier

	Consumer price inflation (a)	HICP	Difference
Austria	2.0	1.5	-0.5
Belgium	2.0	2.0	0.0
Denmark	2.2	2.0	-0.2
Finland	0.4	0.6	0.2
France	1.6	1.7	0.1
Germany	1.7	1.6	-0.1
Greece	6.6	6.5	-0.1
Irish Republic	1.9 (b)	1.7	n.a.
Italy	2.4	2.3	-0.1
Luxembourg	1.5	1.5	0.0
Netherlands	2.2	1.6	-0.6
Portugal	2.9	2.4	-0.5
Spain	2.5	2.5	0.0
Sweden	-0.4	1.1	1.5
United Kingdom	2.7	2.0	-0.7
Mean (unweighted)	2.1	2.1	-0.1(c)
Median (unweighted)	2.0	1.7	-0.1(c)

Source: Eurostat, EMI and ONS.

(a) Headline national measures.

(b) Refers to 1996 Q4.

(c) The mean and median of the 14 differences.

(1) See the box on page 7 of the *Inflation Report*, May 1996.

(2) The RPI includes the price of used cars; the HICP includes prices of both new and used cars.

(3) The geometric mean of  $n$  numbers is calculated by multiplying them together and taking the  $n^{\text{th}}$  root. The arithmetic mean adds the  $n$  numbers together and divides the total by  $n$ .

**Table 1.B**  
**Inflation<sup>(a)</sup>**

Percentage increase in prices on a year earlier

	1996			1997		
	June	Sept.	Dec.	Jan.	Feb.	Mar.
HARP	3.0	3.3	3.9	3.7	3.5	3.4
THARP	2.9	3.2	3.7	3.4	3.3	3.2
Trimmed mean	2.4	2.7	2.8	2.8	2.7	2.6
Median	2.3	2.3	2.3	2.3	2.3	2.2

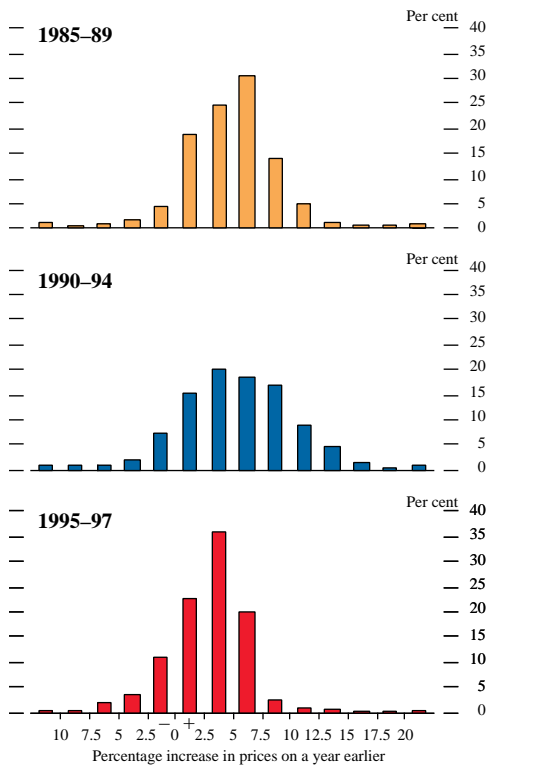
Sources: ONS and Bank calculations.

(a) Data are seasonally adjusted by the Bank.

Because the distribution of price changes is usually skewed, with more large increases than large decreases, the median and trimmed mean measures of inflation tend to be lower than RPIX. Table 1.B shows that the twelve-month median and trimmed mean inflation rates have both been fairly stable over the past year.

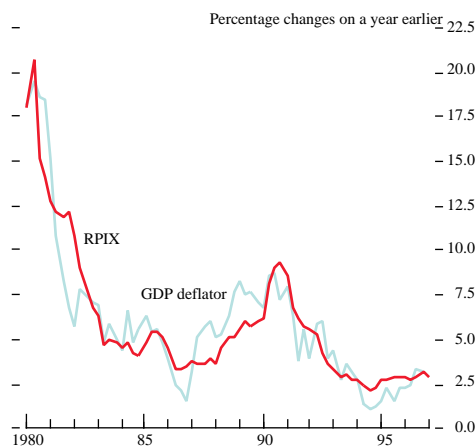
It may also be useful to look at the overall distribution of price changes. Chart 1.5 compares the distribution of the weighted twelve-month changes in the 81 components of the RPIX over different time periods. The chart shows that the distribution of price changes has shifted to the left over the past twelve years as the general rate of inflation has fallen. Price falls have become more common, allowing more relative price changes without a rise in the general price level. And the variance of changes was lowest between 1995–97.

**Chart 1.5**  
Distribution of annual price changes<sup>(a)</sup>



(a) Weighted share of price changes falling within a given range.

**Chart 1.6**  
Annual inflation based on the GDP deflator and RPIX



Sources: ONS and Bank of England.

## 1.3 Expenditure deflators

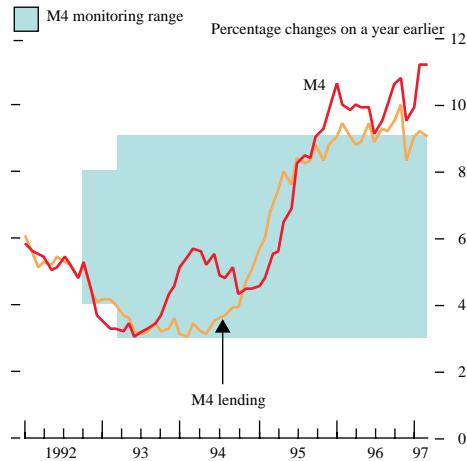
The GDP deflator measures the price of domestic value added. So it is a measure of domestically generated inflation. Chart 1.6 shows that changes in the GDP deflator have sometimes preceded rises or falls in RPIX inflation, for example towards the beginning and end of the 1980s. But the GDP deflator is less timely than retail prices. In the year to 1996 Q4 the increase in the GDP deflator was 3.2%, the same as RPIX annual inflation.

## 1.4 Summary

RPIX inflation remains above its target. It has fallen slightly over the past three months as lower goods price inflation has outweighed rising service price inflation. The fall in goods price inflation partly reflects falling import prices following the appreciation of sterling since August last year. Lower import prices and relative demand pressures will probably continue to push goods and service price inflation in opposite directions over the next few months.



**Chart 2.1**  
**Growth of M4 and M4 lending**



Source: Bank of England.

**Table 2.A**  
**Growth rates of M4 and M4 lending<sup>(a)</sup>**

Per cent

		1 month	3 months (b)	6 months (b)	12 months
M4	Dec.	-0.3	8.0	9.3	9.5
	Jan.	1.7	10.5	11.7	9.9
	Feb.	1.4	11.8	12.5	11.2
	Mar.	1.0	17.9	12.9	11.2
M4 lending	Dec.	-0.5	5.4	6.8	8.3
	Jan.	1.6	8.3	8.8	9.0
	Feb.	1.0	8.6	9.4	9.2
	Mar.	0.6	13.7	9.5	9.0

Source: Bank of England.

(a) Seasonally adjusted.  
(b) Annualised.

Broad money growth, which was already high in 1996, picked up further in the first quarter of this year. Between 7 February and 8 May official interest rates were raised by  $\frac{1}{4}$  percentage point and the exchange rate continued to appreciate—by  $1\frac{1}{2}\%$  in effective terms.

## 2.1

## Money

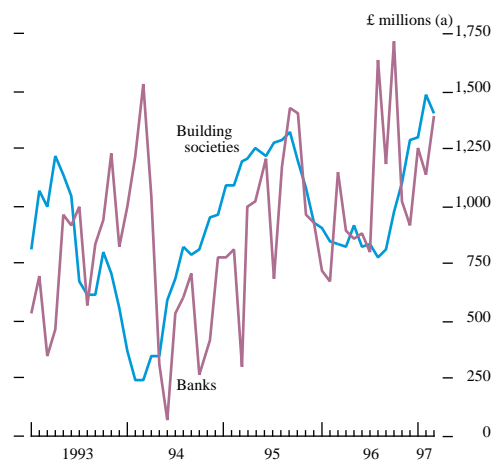
Broad money (M4) annual growth has risen steadily from a trough of 3% in 1993, and is now into double figures (see Chart 2.1). If it continued at current rates, the velocity of money would have to fall by more than 5% a year to be consistent with the inflation target. Velocity might be expected to rise or fall for one or two years over the cycle, as has happened recently: it fell by an annualised 4% in the 18 months to the end of 1996. But a sustained fall in velocity—such as occurred throughout the 1980s—would only be expected at a time of rapid financial liberalisation, which is not the case now.

Table 2.A shows that the three-month growth rate of M4 rose significantly in March. But it was distorted by year-end balance-sheet adjustments by participants in the gilt repo market, causing M4 and M4 lending to fall in December. These adjustments were largely reversed in January. The three-month growth rate in March includes the unwinding of the year-end effect and so is temporarily much higher than the other growth rates; it is likely to fall in April. These factors do not affect the latest six-month growth rate, which is higher than the twelve-month rate, suggesting that broad money growth is likely to rise further. This makes it even less likely that current broad money growth is consistent with the inflation target.

Other forms of wealth have increased rapidly over the past two years. For example, personal sector net financial assets excluding bank deposits rose by around 40% in the two years to 1996 Q4. The combined effect of fast growth in money and other forms of wealth has also started to feed through to nominal demand (see Section 3).



**Chart 2.2**  
Flows of retail deposits into banks and building societies



Source: Bank of England.

(a) Three-month moving average.

**Table 2.B**  
Changes in personal wealth, income and consumption and personal sector deposit rates

Percentage changes on a year earlier, unless otherwise stated

	1994 Q4	1995 Q4	1996 Q4	1997 Q1
Personal sector M4	3.3	7.4	6.2	7.1
Nominal consumption	4.9	4.0	6.9	n.a.
Personal disposable income	4.1	6.8	5.9	n.a.
Personal sector gross assets (a)	-0.9	8.3	9.6	n.a.
Personal sector deposit rates (b)	3.9	3.9	2.9	3.1

Sources: ONS and Bank of England.

(a) 1996 Q4 gross assets include an estimate of housing wealth.

(b) Weighted average of percentage rates of return on personal sector bank and building society deposits.

On 3 March, the Bank introduced new arrangements for its daily operations in the sterling money markets. The main changes extended the range of instruments used in the Bank's daily operations, and the range of counterparties able to participate in its daily operations.<sup>(1)</sup> These changes will lead to increases in M4 and M4 lending if, for example, the securities firms now allowed to obtain funds in the Bank's daily operations place those funds on deposit with commercial banks. Such effects would probably show up in other financial institutions' (OFIs) deposits. The increase in wholesale deposits (which include OFIs' deposits) in March, which was less than in the previous two months and around the average of the past six months, suggests that M4 was not affected immediately by the changes. But there may be effects later this year, which could boost M4 and M4 lending.

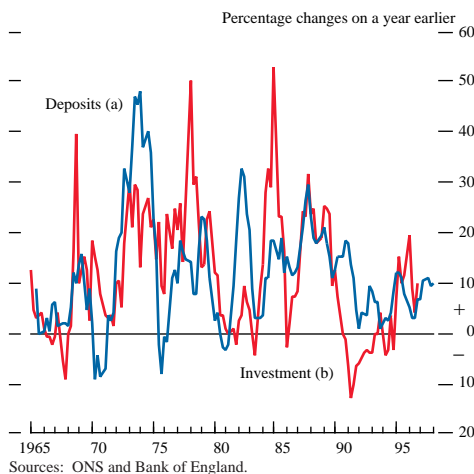
### Personal sector

The personal sector's deposits and holdings of cash rose by 7.1% in the year to 1997 Q1. Part of the increase may have reflected the prospective conversion of some building societies: savers in those societies had an incentive to hold higher balances on the qualification date to maximise their allocation of shares. Chart 2.2 shows that flows into building society accounts were higher than into bank accounts at the beginning of this year. But the qualification dates have now passed for two of the largest conversions—in February for the Halifax and the Woolwich—so a fall in deposits in those societies might have been expected. However, in March retail deposits increased by around £1 billion in building societies and by £1.6 billion in banks, compared with a combined average of £2.5 billion in the past six months. This suggests that the recent increase in personal sector M4 represented a general demand for higher deposits.

Individuals' demand for broad money depends largely on their wealth, income and consumption and on the level of interest rates (see Table 2.B for recent data). Given growth and interest rates during 1995, the increase in personal sector M4 in that year was unusually high based on past relationships. The 'excess' liquidity was reduced last year as consumption increased and individuals bought financial assets. Because income and wealth (both money and non-money) are now growing quickly and deposit rates are low, the outlook for consumption is robust.

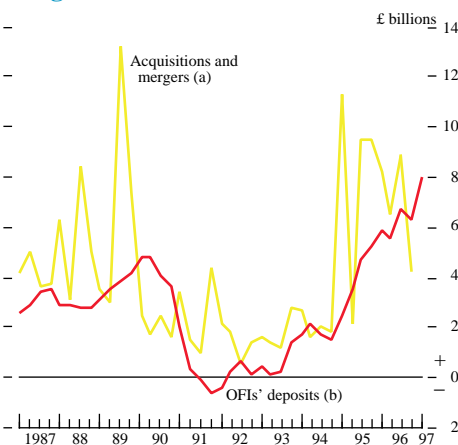
(1) See 'The operation of monetary policy', *Bank of England Quarterly Bulletin*, May 1997, pages 123–42, for more detail.

**Chart 2.3**  
Annual growth in ICCs' deposits and investment



(a) ICCs' deposit growth lagged by four quarters.  
(b) At current market prices.

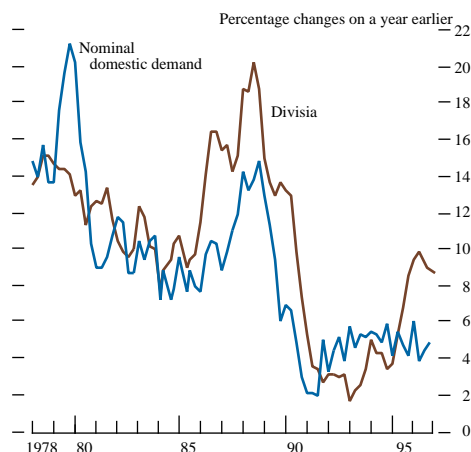
**Chart 2.4**  
OFIs' deposits, and acquisitions and mergers



Sources: ONS and Bank of England.

(a) In the United Kingdom by UK companies. Includes financial institutions from 1995 Q1.  
(b) Four-quarter moving average of change in deposits.

**Chart 2.5**  
Annual growth of domestic demand and Divisia



Sources: ONS and Bank of England.

*Industrial and commercial companies (ICCs)*

ICCs' deposits rose by 10.2% in the year to 1997 Q1 and by an average of 8<sup>1</sup>/<sub>4</sub>% over the past three years. Chart 2.3 shows that changes in ICCs' deposits tend to precede changes in ICCs' nominal investment spending; the strongest correlation is between deposits in one year and investment in the following year.<sup>(1)</sup> Consistent with the growth in money in 1995, ICCs' investment rose by 10% in the year to 1996 Q4 and is likely to continue growing quickly this year, given the rise in ICCs' deposits in 1996.

*Other financial institutions (OFIs)*

OFIs' deposits are only a fifth of all banks' and building societies' deposits, but their increase during 1996, £25 billion, accounted for nearly half of the rise in total M4. The increase in OFIs' money holdings was partly related to higher cash-financed merger and acquisition activity (see Chart 2.4). For example, payouts to shareholders following a takeover might be expected to raise temporarily the money balances of OFIs such as life assurance and pension funds. But the large increases in OFIs' deposits also coincided with fast growth in their other assets, such as securities. If OFIs aim to maintain a certain proportion of their assets in money, then the increase in the value of total assets would also raise their desired holdings of money. In 1996 Q4, OFIs' deposits were 7.7% of their total financial assets, only 0.5 percentage points higher than a year earlier.

*Divisia money*

The rapid growth in Divisia money over the past year is consistent with nominal demand growing quickly, because the Divisia index of money measures transactions balances. It weights the various components of money according to their liquidity, proxied by the inverse of their relative interest rates. For example, current accounts are very liquid because they have no restrictions on withdrawals, but pay lower interest than other accounts. So they have a high weight in Divisia money. Liquid money is more likely than other money to be held to finance transactions. So Divisia money should be more closely related than other measures of money to nominal spending. Chart 2.5 shows the positive correlation between the growth of Divisia money and nominal domestic demand over the past 20 years.

(1) For more discussion of the uses of money as an indicator see Astley, M S and Haldane, A G (1997), 'The information in money', in the *Bank of England Quarterly Bulletin*, May 1997, pages 174-80.

**Table 2.C**  
**Divisia and M4 annual growth rates**

Percentage change in the year to 1997 Q1

	Divisia	M4
Personal sector	6.6	7.1
OFIs	12.7	25.9
ICCs	4.0	10.2

Source: Bank of England.

**Table 2.D**  
**Growth rates of narrow money<sup>(a)</sup>**

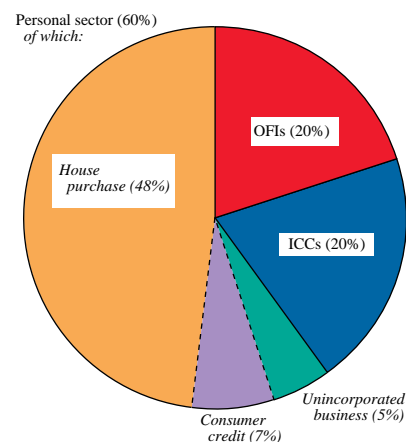
Per cent

		1 month	3 months (b)	6 months (b)	12 months
Notes and coin	Jan.	0.6	6.8	6.4	7.1
	Feb.	0.2	5.1	5.3	6.3
	Mar.	0.5	5.3	5.6	6.4
	Apr.	0.5	4.9	5.8	6.3
M0	Jan.	0.4	6.9	6.9	7.2
	Feb.	0.2	5.1	5.6	6.4
	Mar.	0.5	4.8	6.4	6.4
	Apr.	0.2	3.9	5.4	6.0

Source: Bank of England.

(a) Seasonally adjusted.  
(b) Annualised.

**Chart 2.6**  
**Stock of bank and building society credit by sector<sup>(a)</sup>**



Total £801 billion, seasonally adjusted

Source: Bank of England.

(a) As at 1997 Q1.

Money is held as a store of wealth as well as for transactions purposes. When broad money rises more rapidly than Divisia money, money held as a store of wealth should be rising. Table 2.C compares growth of Divisia money with M4 for the personal sector, ICCs and OFIs. ICCs' and OFIs' M4 grew much more rapidly than the measure of their Divisia money in the year to 1997 Q1. This suggests that a significant proportion of the recent large increase in ICCs' and OFIs' money represents portfolio decisions to allocate some assets into money, rather than temporary holdings in liquid accounts.

### Narrow money

M0 grew by 6% in the twelve months to April, above the monitoring range of 0%–4%. Because banks' operational deposits—less than 1% of M0—are volatile they can distort M0 growth. So it is better to look at the growth of notes and coin, which exclude banks' operational deposits. Recent growth of notes and coin has slowed (see Table 2.D). This is consistent with slower growth of retail sales values—inflation measured by the retail sales deflator has fallen since the start of this year.

## 2.2

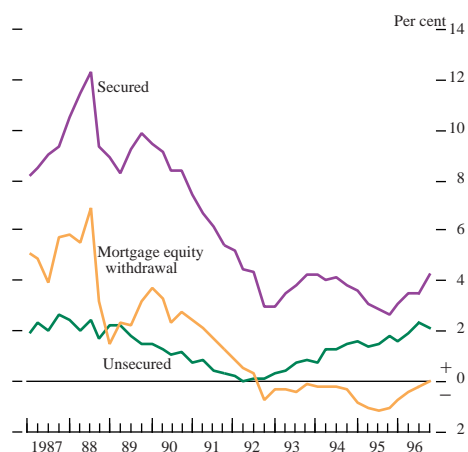
## Credit

Bank and building society lending to the non-bank private sector (M4 lending) rose by 9% in the twelve months to March. Chart 2.6 shows that lending to the personal sector, particularly for house purchases, accounted for most of the credit outstanding at the beginning of this year. Since the demand for credit depends partly on expected future activity, it can give information about the prospects for future domestic demand. So it is useful to distinguish increases in lending driven by demand from those driven by supply. One way to do this is to look at both the quantity of lending and its price (the rate of interest charged): an increase or decrease in both indicates a shift in demand, and an increase in one accompanied by a decrease in the other indicates a shift in supply.

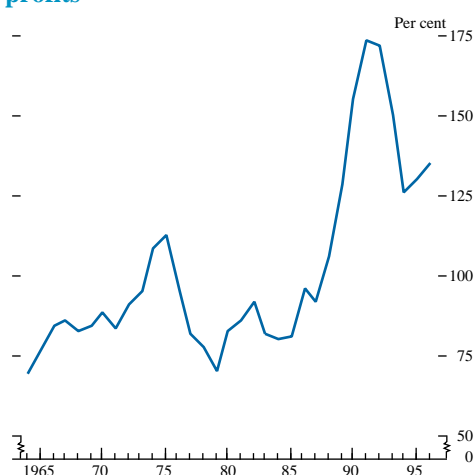
Mortgage margins narrowed a little last year and growth in net lending for house purchase picked up to around 5% from 4% in 1995.<sup>(1)</sup> Spreads on loans to the corporate sector—such as international syndicated loan spreads to ICCs—also narrowed last year, and lending continued to grow strongly. So the supply of credit for

(1) See 'UK mortgage margins', Gallagher, N and Milne, A, *Financial Stability Review*, Spring 1997, pages 38–46.

**Chart 2.7**  
Secured and unsecured borrowing, and mortgage equity withdrawal, as shares of disposable income



**Chart 2.8**  
ICCs' bank borrowing as a share of gross profits



Sources: ONS and Bank of England.

the corporate sector and the housing market is likely to have increased in 1996. But spreads on unsecured lending to consumers appear to have widened over the past two years, suggesting that the recent increase in consumer borrowing—around 30% over 1995 and 1996—was largely demand driven.

### *Personal sector*

In March, net lending to individuals, including lending by institutions other than banks and building societies, was nearly 7% higher than a year ago. Lending to individuals consists of lending secured on property—mortgages—and other lending—‘consumer credit’. Chart 2.7 shows both types of lending in relation to disposable income. Mortgage borrowing has risen over the past year in line with the recovery in the housing market, but remains much lower than in the second half of the 1980s.

Mortgages can be used to finance immediate consumption through equity withdrawal. But there have been net equity repayments since 1992 as households have sought to reduce or eliminate their negative equity. According to the Bank’s latest estimate, negative equity is now very small. If the housing market recovery continues, mortgage equity withdrawal could soon be used to finance consumption again. This could reduce some of the demand for consumer credit, which has risen quickly over the past few years.

### *Industrial and commercial companies*

ICCs’ borrowing from banks and building societies has risen significantly over the past two years or so: in 1997 Q1 borrowing was around 30% higher than at the end of 1994. But Chart 2.8 shows that ICCs’ bank borrowing as a proportion of income was much lower in 1996 than in the early 1990s. ICCs increased their capital gearing rapidly in the late 1980s to historically high levels before reducing it between 1992 and 1994. The more recent large increases in bank borrowing suggest that ICCs are now more comfortable with their levels of debt.

### *Other financial institutions*

OFIs’ bank borrowing outstanding was 18% higher in 1997 Q1 than a year earlier. Leasing companies increased their borrowing significantly last year. This probably reflected stronger demand for capital goods: the Finance and Leasing Association reported that gross lending by leasing companies to finance plant and

**Chart 2.9**  
Sterling three-month interest rate expectations<sup>(a)</sup>



Sources: LIFFE and Bank of England.

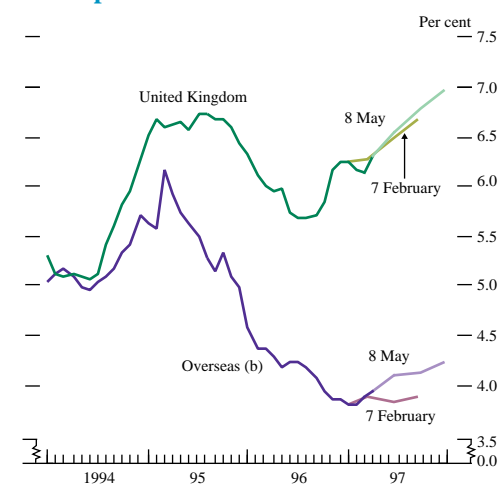
(a) Based on a combination of sterling interest rate futures.

**Table 2.E**  
Expectations for sterling three-month interbank rate in September 1997

As at:	Actual three-month Libor	Expectation (mean)	Expectation (mode)	Probability of rates being higher than 6.25%
1 November 1996	6.19	7.06	6.53	75
7 February 1997	6.25	6.68	6.63	77
8 May 1997	6.44	6.80	6.78	92

Sources: LIFFE and Bank of England.

**Chart 2.10**  
Sterling and overseas three-month interest rate expectations<sup>(a)</sup>



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

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

machinery, rolling stock, ships and aircraft rose significantly in 1996. And in the second half of last year, bank lending to mortgage finance companies grew, representing a third of the total rise in M4 lending to OFIs. This may have been linked to the housing market recovery.

## 2.3 Interest rates and exchange rates

The price of money—interest rates—should be considered alongside the quantity of money. The yield curve in the United Kingdom gives information on inflation expectations and real interest rates. And comparing the UK yield curve with overseas yield curves can help to explain movements in exchange rates.

### Short-term interest rates

Official short-term interest rates in the United Kingdom were raised by  $\frac{1}{4}$  percentage point on 6 May, the only change between the *February Report* and 8 May, when data for this *Report* were finalised. On the same day, the Chancellor announced that the Bank would be given operational responsibility for setting short-term interest rates (see the box on page 16). Chart 2.9 shows that expected three-month interest rates implied by futures prices have increased since the previous *Report*. Most of the increase followed the release of January's figures for underlying average earnings, which were significantly higher than expected (see Section 4). Short-term interest rates are now expected to reach 7% by the end of this year, compared with the current level of 6.4%.

It is possible to deduce the market's view of the probability distributions for future three-month interest rates from options' prices. Table 2.E shows that the implied probability of interest rates being above  $6\frac{1}{4}$ % in September rose from 77% to 92% between 7 February and 8 May. Since the beginning of November 1996, the implied probability attached to a very large increase in short-term rates by September this year has fallen: the mean expected interest rate has fallen relative to the mode (the single most likely outcome).

Chart 2.10 shows that expected overseas three-month interest rates have also risen since the previous *Report*, by more than the expected path for UK short-term interest rates. In the United States, the Federal Reserve Board increased its official short-term interest rate by  $\frac{1}{4}$  percentage point on 25 March, the first increase for two years.



Higher real interest rates will tend to reduce consumption and investment because they represent an increase either in interest foregone on savings or in the cost of borrowing. The yield on a ten-year index-linked government bond, which is a direct measure of the real interest rate expected over the maturity of the bond, has been around 3½% for the past year. What about other measures? For a saver, the relevant real interest rate is the deposit rate less the expected increase in the cost of living. Deposit rates—weighted by the proportion of money in different accounts—fell to around 3% in 1997 Q1 from an average of 4.2% in 1995, while consumers' expectations of RPI inflation (measured by the Barclays Basix Survey) have been broadly unchanged. So savers' real interest rates have fallen, encouraging higher consumption. For a borrower the real interest rate is the loan or overdraft rate in relation to the expected increase in the price of the good or service to be purchased by borrowing. For example, a house-buyer's real interest rate would be the mortgage rate less the expected rate of house price inflation over the duration of the mortgage. Mortgage rates fell by around one percentage point during 1996. There is no direct survey evidence on expectations of house price inflation, but they may have been increased by the recent rise in house prices. Lower real interest rates for house buyers would be consistent with the increase in housing turnover over the past year.

### *Long-term interest rates*

The yield on ten-year gilts fell by around 10 basis points between the February and May *Reports*. The yield on the trade-weighted average of government bonds overseas rose by around 20 basis points. On 8 May the yield on UK gilts was about 150 basis points higher than the yield on overseas bonds. This gap largely reflects the difference in the expected level of short-term interest rates over the next couple of years, which in turn mainly reflects relative positions in the economic cycle. Implied forward rates suggest that UK short-term interest rates, in ten years' time, are expected to be around 25 basis points higher than German rates, compared with a difference of over 300 basis points in current three-month interest rates.

### *Exchange rates*

The nominal effective exchange rate index closed at 98.8 on 8 May, 1½% higher than on 7 February when data for the previous *Report* were finalised. The monthly average in April—99.5—was 17½% higher than in

## Operational independence for the Bank

The Chancellor of the Exchequer announced on 6 May that the new Government was giving the Bank operational responsibility for setting interest rates and will introduce legislation as soon as possible. The Bank's monetary policy objective will be to deliver price stability (as defined by the Government's inflation target) and, without prejudice to that objective, to support the Government's economic policy, including its objectives for growth and employment.

The Government's inflation target will be confirmed in each Budget Statement. The Bank will continue to publish a quarterly *Inflation Report* in which it will account for its monetary policy actions, set out and justify its analysis of the economy, and explain how it intends to meet the Government's inflation target and support the Government's economic policy.

Decisions on interest rate policy will be made by a Monetary Policy Committee (MPC) comprising the Governor, two Deputy Governors, and two executive directors appointed by the Governor, and four members appointed by the Chancellor. The latter four members will be recognised experts and will not be allowed to engage in activities which give rise to conflicts of interest.

Decisions will be made on a one-person one-vote basis, with the Governor having the casting vote if there is no majority. The Treasury will have the right to be represented in a non-voting capacity. The legislation will provide that if, in extreme circumstances, the national interest demands it, the Government will have the power to give instructions to the Bank on interest rates for a limited period. The Government has noted that this power is in line with practice in other countries, and could be exercised only through subordinate legislation approved by Parliament.

The MPC will meet on a monthly basis. Decisions on interest rates will be announced immediately. The minutes of the meetings, including a record of any vote, will be published no later than six weeks after the meeting.

Until the legislation comes into force, all aspects of the new monetary policy procedure will operate *de facto*. An interim MPC has been established comprising the Governor, the Deputy Governor and

the two executive directors responsible for the Bank's Monetary Stability Wing.

### *The reaction of financial markets*

The immediate reaction of financial markets to the Chancellor's announcement (which was accompanied by a 1/4% rise in official interest rates) was marked (see the table). That was most evident in long-term bond yields, which reflect expectations of inflation, real interest rates and risk premia. Long gilt yields fell by around 30 basis points. And, ten-year nominal forward rates fell by about 50 basis points. Because real forward rates were broadly constant, this implies a corresponding fall in measured inflation expectations, the inflation risk premia or both (see the chart). It seems likely that the changes to the UK monetary framework announced by the Chancellor have, at least for the moment, improved the credibility of monetary policy.

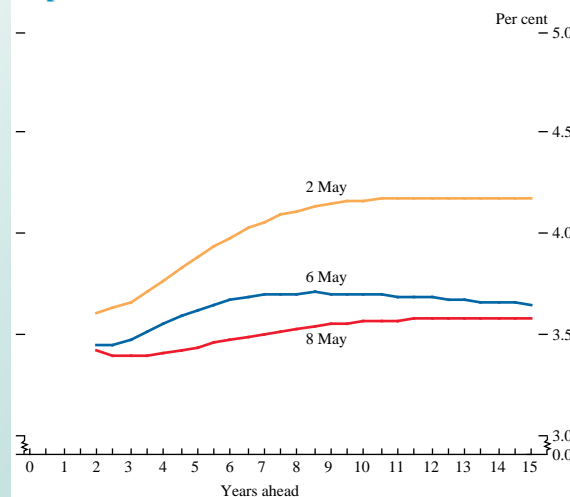
### Change in UK financial market measures

	Fri 2 May (a)	Tues 6 May (a)	Change (b)
£ Effective exchange rate	99.71	100.56	0.85%
DM/£	2.80	2.82	0.82%
\$/£	1.62	1.64	1.17%
Ten-year nominal forward rate	7.83	7.31	-0.52
Ten-year implied forward inflation rate	4.17	3.70	-0.47
Ten-year zero coupon rate	7.39	7.07	-0.32
Three month Libor (c)	6.53	6.53	0.00
FT-SE 100 index level	4,455.60	4,519.30	1.43%

(a) Close of business.  
 (b) Percentage points, unless indicated. Data are between close of business on Friday 2 May and close of business on Tuesday 6 May.  
 (c) 8.30 am rate, following business day.

The effective exchange rate rose by almost 1%. Moreover, the relative fall in the sterling yield curve implies that sterling is expected to depreciate at a slower rate than before the announcement.

### Implied forward inflation rates



Source: Bank of England.



**Chart 2.11**  
Sterling effective exchange rate



Note: Daily data. Final observation is 8 May.

Source: Bank of England.

**Table 2.F**  
Sterling exchange rate changes

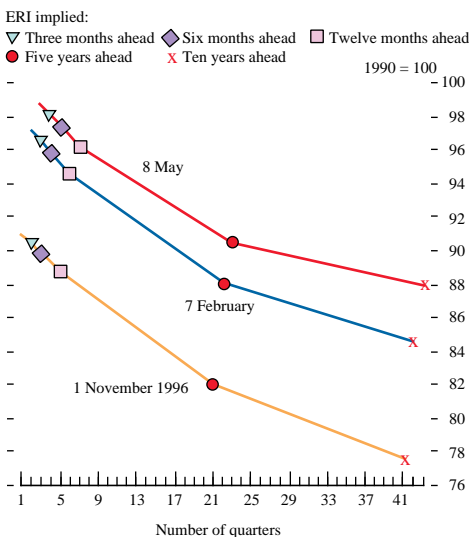
Percentage changes on a year earlier

	Dec. 1995	Apr. 1997
ERI	-7.0	18.8
US\$/£	-1.3	7.6
DM/£	-9.5	22.2
¥/£	0.3	26.1

August last year, and at its highest level for over four years (see Chart 2.11). Sterling has appreciated more against some currencies than others over the past year. For example, Table 2.F shows that sterling rose by much more against the Deutsche Mark and Japanese yen than against the US dollar in the twelve months to April 1997. Sterling was also more stable against the dollar than against most other currencies during 1995.

Section 6 explores why the exchange rate might have appreciated sharply over the past year. Chart 2.12 shows the path for sterling implied by uncovered interest parity (UIP). Assets with similar risk and liquidity characteristics should have the same expected return in common currency terms. When yields differ in domestic currency terms, UIP implies that the exchange rate should be expected to change so as to equalise expected returns in a common currency. Since UK interest rates are higher than average overseas interest rates, UIP implies that sterling is expected to depreciate. The expected rate of depreciation has fallen since the February Report—the path in Chart 2.12 has become less steep—because UK implied forward interest rates at longer maturities have fallen relative to those overseas.

**Chart 2.12**  
UK effective exchange rate profiles<sup>(a)</sup>



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

(a) Assuming uncovered interest rate parity.

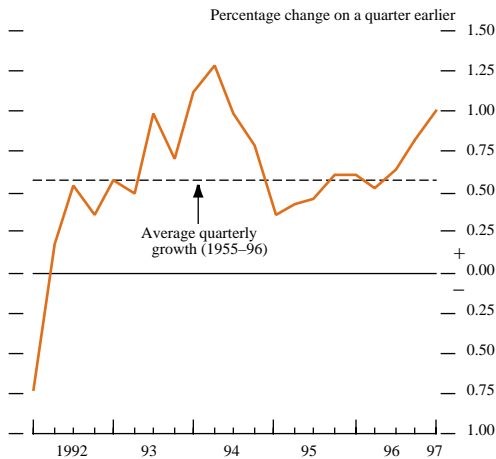
## 2.4

## Summary

Broad money growth was high in 1996, and has risen further this year. It is even less likely to be consistent with the inflation target in the medium term than at the time of the February Report. The growth of individuals' and ICCs' broad money suggests a robust outlook for consumption and investment over the next year or so. This is consistent with the recent growth of Divisia money.

UK official interest rates were increased by 1/4 percentage point on 6 May and they are expected to rise further by the end of this year. Long-run inflation expectations have fallen. The exchange rate has continued to appreciate.

**Chart 3.1**  
Quarterly GDP growth

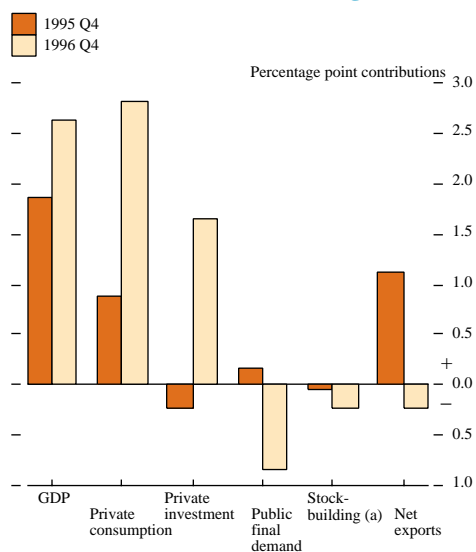


Real output accelerated during 1996 (see Chart 3.1). Growth was driven by stronger private final demand, largely reflecting above-average consumption growth (see Chart 3.2). Public sector demand reduced GDP growth. Stockbuilding was subdued during 1996, as the inventory overhang evident in 1995 began to unwind. Net exports fell, although any impact of the exchange rate appreciation on trade volumes has been difficult to identify. Real GDP is estimated to have increased a further 1% in 1997 Q1.

Nominal GDP rose by 6% during 1996, up from 4½% during 1995. Continued growth in nominal output above 4¾%–5% a year is unlikely to be consistent with an inflation target of 2½%, if real output continues to grow at its long-run average.

Measurement problems have made it difficult to discern the strength of activity over the past year. Estimated growth in the expenditure measure of GDP has been considerably lower than in the income or output measures for the past year and a half. The box on pages 20–21 discusses this issue, and concludes that the output measure is probably the most accurate estimate of activity.

**Chart 3.2**  
Contributions to annual GDP growth



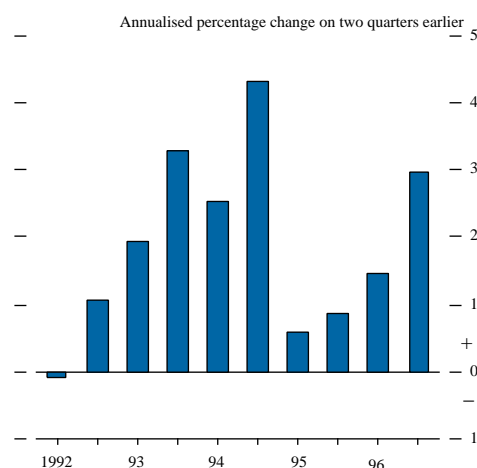
(a) Excluding the alignment adjustment.

### 3.1 Domestic demand<sup>(1)</sup>

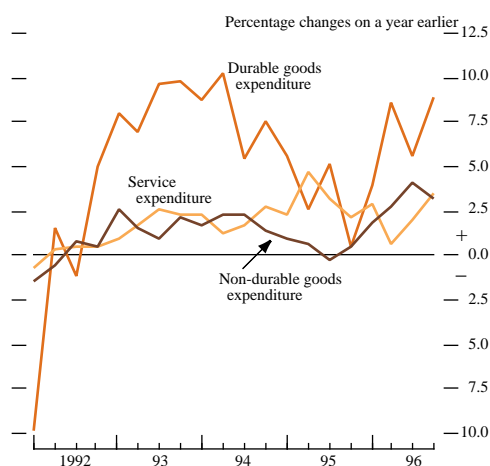
Domestic demand accelerated last year: it rose at an annualised rate of 3% in the second half of 1996, compared with 1.5% in the first half of the year (see Chart 3.3). This reflected stronger private final demand growth, which more than offset lower public final demand and stockbuilding. The acceleration in domestic demand is consistent with strong growth in real broad money over the past two years: M4 deflated by RPIX increased at an annualised rate of 7¼% between 1995 Q1 and 1997 Q1. The recent growth of broad money (see Section 2) suggests that domestic demand growth may rise further.

(1) This section is based on the expenditure estimates provided by the ONS, which are subject to the uncertainties described in the box.

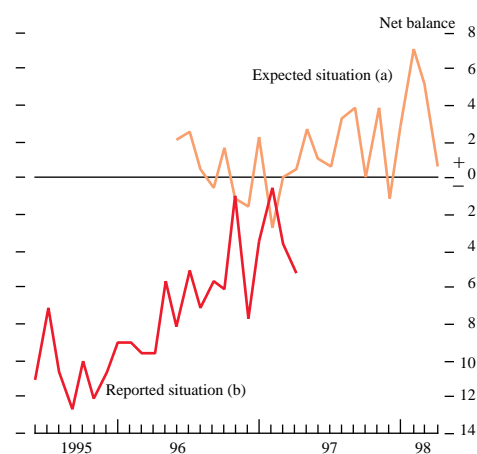
**Chart 3.3**  
Domestic demand growth



**Chart 3.4**  
Growth in consumers' expenditure by category



**Chart 3.5**  
Change in financial conditions: GFK consumer confidence survey



Source: GFK Great Britain Ltd.

- (a) How do you think the financial situation of your household will change over the next twelve months? Plotted in the month the expectation refers to.  
 (b) How does the financial situation of your household now compare with what it was twelve months ago?

## Consumption

Consumers' expenditure rose by 0.9% in the final quarter of 1996, and was 4% higher than a year earlier. Consumption growth was above its long-run average quarterly rate of 0.6% during each quarter of 1996. Expenditure on durable goods increased by 8.9% over the year to 1996 Q4, while non-durable goods and services expenditure rose by 3.2% and 3.6% respectively (see Chart 3.4). Expenditure on durables continues to be boosted by windfall gains, such as payouts from the demutualisation of building societies and life assurance companies, and electricity rebates.

Consumption growth probably remained high in 1997 Q1. Retail sales—which account for around 40% of total consumption expenditure—rose by 1%. And survey evidence from the British Chambers of Commerce (BCC) and the Chartered Institute of Purchasing and Supply suggests that expenditure on services continued to grow strongly in 1997 Q1. Consumers' expenditure on services accounts for nearly half of total consumption, and rose by 1.5% in 1996 Q4.

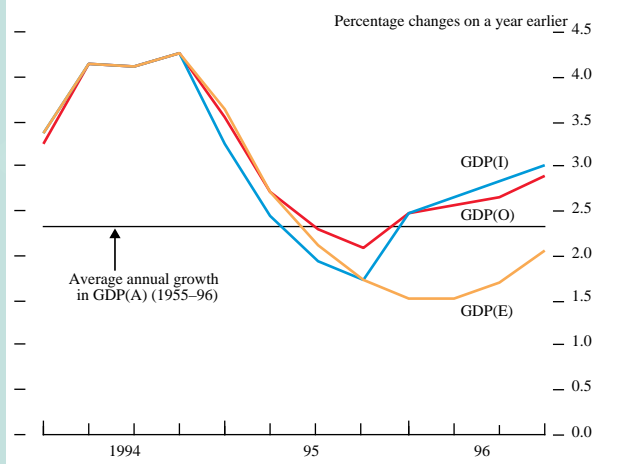
Looking further ahead, consumption growth is likely to remain above its 40-year average over the next year or so. Consumers' financial positions—both current and expected—are important determinants of consumption decisions. Evidence from the GFK consumer confidence survey suggests that the financial position of households has strengthened over the past two years (see Chart 3.5). Consumers are also a little more optimistic about their future financial position. This is likely to reflect three main factors: strong income and employment growth, increases in non-wage income and rising net wealth.

First, real disposable income grew by 3.8% in 1996, well above its 40-year average growth rate of around 2½%. Growth in real wage and salary income has been slower than in previous recoveries (see Table 3.A). Over the past two years, this has largely reflected moderate growth in real earnings per employee—the contribution from employment growth has increased since 1994. Earnings growth has picked up recently, and was boosted in 1997 Q1 by the payment of large bonuses (see Section 4 for further details). Unusually large bonuses are akin to windfall gains and are likely to boost consumer spending only moderately in the short term, by amounts related to the annuity value of the bonuses. Bonuses that are regarded as part of normal income are likely to affect consumers' spending more in the short term.

## Discrepancies between the three measures of GDP

The analysis of GDP developments over the past year has been made difficult by measurement problems. Estimated growth in the expenditure measure of GDP (GDP(E)) has been lower than the income and output measures (GDP(I) and GDP(O)) for much of the past year and a half (see Chart A). Annual growth in GDP(E)

**Chart A**  
Growth in three measures of real GDP



was 2.1% in 1996 Q4—below its long-run average growth rate of around 2¼%–2½%. This compares with growth in GDP(I) and GDP(O) of 3% and 2.9% respectively, both higher than their long-run average growth rates. The average of these three measures of

GDP (GDP(A)) increased by 2.6% over the year to 1996 Q4.

The ONS considers that GDP(O) provides the best estimate of quarterly growth in the recent past.<sup>(1)</sup> And the experience of the second half of the 1980s shows that past revisions to GDP(E) have been significant, compared with revisions to GDP(O) (see Chart B). For example, although the latest national accounts show that annualised growth in GDP(E) in the mid 1980s was well above its long-run average, this was not reflected in the published figures for nearly four years after the event (see the table below). Overall, estimated annual growth in GDP(E) in

### Successive estimates of annualised growth in real GDP, 1985 Q1 to 1986 Q3

Per cent

Date of publication in <i>Economic Trends</i> (ONS)	GDP(O)	GDP(I)	GDP(E)
January 1987	3.0	1.9	1.3
January 1988	3.3	3.3	1.5
January 1989	3.1	3.0	1.7
January 1990	3.3	3.8	3.3
Current estimates	3.5	4.2	4.2

the mid 1980s has been revised up by 3 percentage points over the past ten years. In comparison, the revisions to estimates of GDP(O) over this period have been much smaller—annual growth in GDP(O) has been revised up by ½ a percentage point since the beginning of 1987.

(1) See Cope, I, 'Data sources for the quarterly account', *The United Kingdom National Accounts CSO Methodological Paper*, Number 3, April 1995.

**Table 3.A**  
Contributions to real disposable income growth

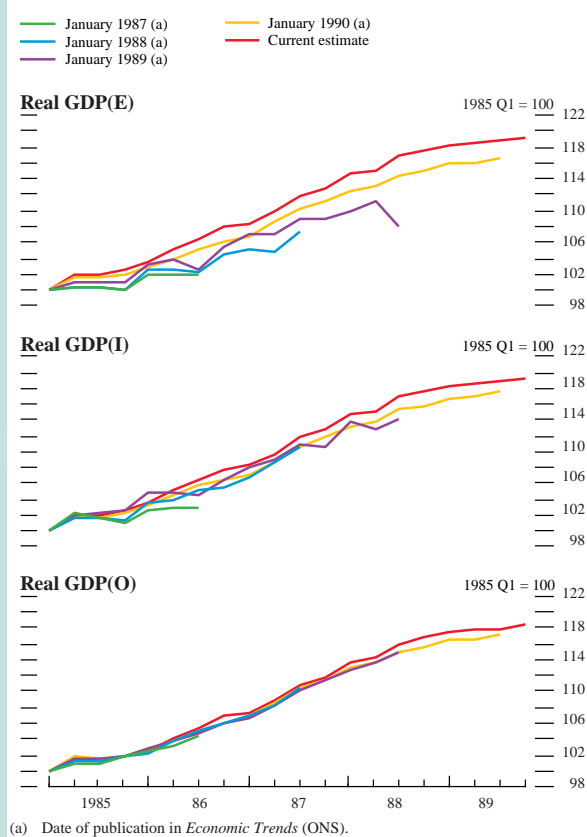
Percentage point contributions

	1992	1993	1994	1995	1996
Real wage and salary income	-1.1	-0.7	0.6	1.2	1.1
of which:					
Real average earnings	0.4	-0.2	0.1	0.4	0.4
Employment	-1.4	-0.4	0.4	0.8	0.7
Real non-wage income	2.3	1.9	1.6	3.2	2.6
of which:					
Income from self employment	-0.6	0.3	0.4	0.4	-0.1
Imputed rent of owner-occupied dwellings	0.5	0.1	0.4	0.4	0.3
Receipts of life assurance and pension schemes	0.1	0.1	0.1	1.3	1.0
Net interest payments	0.7	-0.1	-0.1	0.7	0.5
Other (including social security)	1.5	1.5	0.8	0.5	0.8
Less real deductions from income	-0.8	-0.6	1.0	1.4	-0.1
<b>Real disposable income</b>	<b>2.0</b>	<b>1.8</b>	<b>1.2</b>	<b>2.9</b>	<b>3.8</b>

Second, the non-wage component of personal sector income has accelerated over the past two years, especially dividend and interest receipts of life assurance and pension funds. Flows into these funds accounted for over one quarter of the growth in real disposable income in 1996. This strong growth may partly explain why the saving ratio has remained high: the personal sector saved over 11½% of disposable income in 1996, well above the long-run average saving ratio of 9%. In part, life assurance and pension funds represent future income of households (for example, in the form of pensions). The household sector saving ratio—which excludes income and spending of life assurance and pension funds, as well as unincorporated enterprises and non-profit organisations—was 3¼% in 1995, up from an average of 1¾% over the previous 25 years. The household saving ratio is likely to have remained historically high in 1996.

Third, the improvement in consumers' financial positions reported in the GFK survey also reflects

**Chart B**  
**Successive estimates of the three measures of GDP during the second half of the 1980s**



Growth in the income and output measures of GDP over the past year also accords more closely with other indicators of activity. The strength of labour demand, survey evidence and robust broad money growth all

suggest that activity has been growing at or above its trend growth rate for the past year. Estimates of GDP(E), however, suggest that the economy grew below its long-run average growth rate over this period. Accordingly, the income and output measures seem to be providing more accurate estimates of activity than the expenditure measure.

It is difficult to predict revisions to growth in the current cycle. The experience of the second half of the 1980s suggests that the output measure of GDP is more reliable, because revisions to GDP(O) were less pronounced. That would imply that growth in GDP(A) over the year to 1996 Q4 was probably closer to 3%—that is, annual growth in GDP(O)—rather than the current estimate of 2.6%. It also means that there could be significant revisions to the expenditure components of GDP, as the level of GDP(E) was 1.2% below the level of GDP(O) in 1996 Q4.

That suggests that some of the expenditure components are being underestimated, making their interpretation problematic. While it is not possible to determine which components are likely to be revised, the largest revisions have typically been to fixed investment and stockbuilding.

But there are factors that make it hard to infer likely revisions to current estimates of GDP from past experience. The manner in which the national accounts are compiled was changed in the early 1990s—the three measures of GDP are now ‘balanced’ using input-output tables. And there have been survey and methodological changes made to some of the expenditure components, which may have reduced the extent of revisions.

increases in net wealth over the past four years. Debt has been reduced and assets have risen. The ratio of personal sector financial liabilities to wealth fell to 17% in 1996, from a peak of 19% in 1992. There has also been an increase in assets, particularly equity and security holdings. That probably reflects price increases more than savings flows. Between 1992 and 1996, share prices rose by an average of 11% a year.

Windfall gains—for example, those arising from the demutualisation of building societies and life assurance companies—will boost personal sector wealth during 1997, or at least convert existing assets into a more liquid form.<sup>(1)</sup> Since the publication of the February *Report* the expected payouts in 1997 have increased from £21 billion to £28 billion. On the assumption that 5%–10% of these payments will be spent in the first year, the Bank’s central projection is that they will

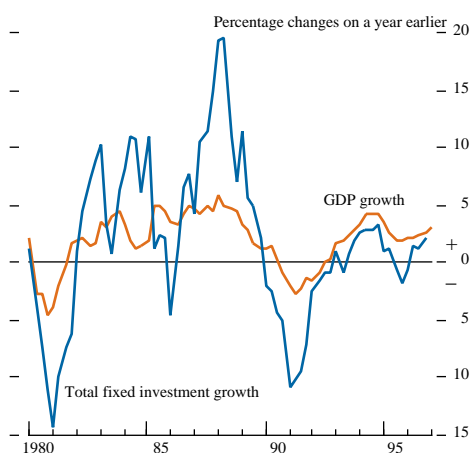
(1) For a fuller account of the Bank’s assessment of how these windfall gains will affect consumption during 1997 and 1998, see page 22 of the February 1997 *Inflation Report*.



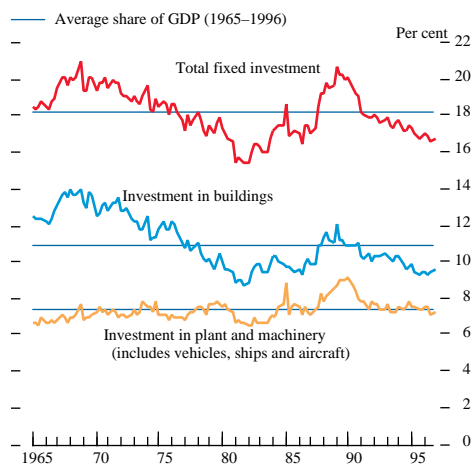
boost consumption by 0.3–0.7 percentage points in 1997.

There is a net upside risk that a higher-than-expected proportion of the windfall gains will be spent. In April, 27% of the recipients of Alliance and Leicester shares registered to sell their shares immediately. That is a little higher than evidence from a recent MORI survey had suggested.<sup>(1)</sup> According to the survey, around one quarter of households qualifying for payouts from building societies expected to sell their shares within the first year (of those, 12% expected to sell immediately). And if share prices rose by 20% or more, one half of recipients expected to sell their shares in the first year. But not all this money will necessarily be spent—some households planned to reinvest the money in other assets. Taking that into account, MORI forecast that 10%–25% of the total value of the windfall gains would be spent in the first year.

**Chart 3.6**  
Growth in fixed investment and GDP



**Chart 3.7**  
Fixed investment as a share of GDP  
at constant prices



*Investment demand*

Fixed investment increased by 1% in 1996 after falling by 0.1% in 1995. Investment growth has not kept pace with GDP over this recovery: investment as a share of GDP (in constant 1990 prices) fell to 16.8% in 1996 Q4, from 18% in 1992 Q1 (the trough in output). This is unusual, as investment tends to vary more pro-cyclically than other expenditure components of GDP (see Chart 3.6). In part, investment’s relatively low share in GDP may be the consequence of the strong growth in investment during the second half of the 1980s: as a share of GDP, fixed investment reached a peak of 20.8% in 1989 Q1, its highest share since 1968 Q4. But the aggregate investment figures mask differences in investment by both asset type and sector. One key feature has been the weakness of investment in buildings compared with investment in plant and machinery (see Chart 3.7).

There have also been divergent trends in the private and government sectors.<sup>(2)</sup> Within the private sector, business fixed investment<sup>(3)</sup>—which accounts for nearly two thirds of total fixed investment—rose by 4.5% in 1996, up from 1.4% in 1995. That reflected higher growth in investment by the private service sector, predominantly the business, finance, transport and

(1) The survey was conducted on 24–28 January and 7–10 February.  
 (2) In this context, private investment is defined to include public corporation investment in order to remove the problem of newly privatised industries moving from the public to the private sector.  
 (3) Business fixed investment includes investment by private and public sector corporations in plant and machinery, non-dwelling construction and vehicles, ships and aircraft.

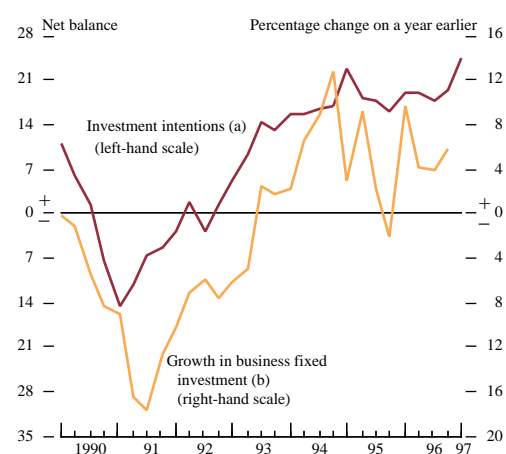
**Table 3.B**  
**Growth in real investment**

Percentage changes on previous period

	Share of investment in 1996	1994 Year	1995 Year	1996 Year	Q3	Q4
<i>Investment by sector (a)</i>						
Business fixed investment (b)	63.6	2.6	1.4	4.5	-2.6	0.7
<i>of which:</i>						
Service-related investment (c)						
Distribution	6.6	2.2	9.2	-10.6	1.5	5.7
Other private services (d)	24.7	16.4	8.0	8.9	5.6	4.6
Production industries						
Manufacturing	11.5	6.8	4.4	-8.0	4.2	-0.2
Mining and quarrying	4.4	-23.6	5.6	-2.4	9.7	-7.0
Utilities	4.2	-12.7	-17.5	-3.9	-11.4	10.5
Construction	0.7	9.4	1.1	7.0	-0.6	17.0
Other (e)	11.5	-3.2	-13.2	31.8	-25.4	-11.8
Private dwelling investment	17.1	3.5	0.7	0.3	3.4	0.8
General government investment	10.7	3.3	-6.9	-20.3	-2.8	-24.4
<b>Total investment</b>		<b>2.9</b>	<b>-0.1</b>	<b>1.0</b>	<b>-1.5</b>	<b>2.3</b>
<i>Memo items: investment by asset</i>						
Vehicles, ships and aircraft	9.2	10.5	-6.4	2.2	-24.7	6.5
Plant and machinery	34.7	6.0	3.3	0.1	1.1	2.1
Non-dwelling construction	36.2	-1.6	-1.5	2.9	1.0	1.3
Dwelling construction (f)	19.9	3.1	-0.4	-1.1	2.8	2.5

- (a) This breakdown of investment by sector excludes transfer costs of land and existing buildings of the private and public corporations sector, and investment by NHS trusts, so shares do not sum to 100.  
 (b) Business fixed investment covers investment by the private sector and public corporations in plant and machinery, non-dwelling construction and vehicles, ships and aircraft, but does not include transfer costs of land and existing buildings.  
 (c) This breakdown of investment by service-related industries is derived from the Capital Expenditure results, and differs in coverage of data used to calculate business fixed investment.  
 (d) Excluding investment by the air and water transport sectors.  
 (e) Includes investment by public corporations (excluding NHS trusts), the air and water transport industries and other miscellaneous industries.  
 (f) Dwelling investment by both the private and public sectors.

**Chart 3.8**  
**Growth in business fixed investment and survey evidence**



Sources: British Chambers of Commerce and ONS.

- (a) BCC survey: 'Do you expect to authorise new capital expenditure over the next twelve months?' Industry survey responses are weighted using 1990 investment shares to derive an aggregate balance.  
 (b) Excluding investment by the construction, utilities and mining and quarrying industries.

communications industries (see Table 3.B). Manufacturing investment fell in 1996, reducing business fixed investment by 1.6 percentage points. Evidence from the CBI Quarterly Industrial Trends Survey suggests that the fall in investment expenditure reflected manufacturers' uncertainty about the strength of demand. But there are signs that manufacturing investment has begun to strengthen more recently: it increased at an annualised rate of 8.1% over the second half of 1996.

Investment intentions in the private business sector remain high, according to the BCC Survey (see Chart 3.8). This partly reflects high profitability: company profits (net of stock appreciation) as a share of GDP were 15% in 1996 Q4, and have been well above their long-run average of 11¼% for the past two years. In addition, the market valuation of capital exceeds its replacement cost, capacity constraints on output have become more widespread, and the relative price of investment goods remains low—all suggesting that investment conditions are favourable.

Private dwelling investment—the other component of private investment—also strengthened over the course of 1996. It increased at an average annualised rate of 8.6% in the second half of 1996, up from 5.2% in the first half of the year. But dwelling investment has recovered more slowly during this cycle than in the past. It was 2.9% of GDP in 1996 Q4, below its long-run average of 3.4%, despite relatively high housing affordability and low real mortgage rates.

Several factors have probably restrained the demand for housing. First, the sharp falls in real house prices over the late 1980s and early 1990s may have increased the risk perceived in housing investment. Second, the low-inflation environment may have reduced the attractiveness of housing as a hedge against inflation. Third, there have been reductions in tax relief on mortgage interest payments. Finally, demographic changes could also have lowered the demand for housing, as there may be fewer first-time buyers now as a proportion of the population than in the 1980s.

Despite these factors, house prices can move quite sharply, because housing is an asset whose stock is fixed in the short term. House price inflation continued to increase: according to the Halifax index, house price inflation rose to 7.2% in 1997 Q1, up from 0.3% a year earlier. This is consistent with consumers becoming more optimistic, as described on page 19.



In contrast to private sector investment, general government investment fell by 20% in 1996, following a fall of 7% in the previous year. This reflected further reductions in government spending in line with Budget plans, and the reallocation of government investment to the private sector resulting from the Private Finance Initiative (PFI). Those factors should continue to restrain government investment during 1997. In the 1996 Budget, general government capital expenditure is projected to fall to 1.6% of GDP in 1997/98, from an estimated 1.9% in 1996/97. Part of that fall is based on the assumption that some expenditure is replaced by the PFI: spending under the PFI is planned to increase to 0.3% of GDP in 1997/98, up from an estimated 0.1% in 1996/97.

### *Stockbuilding*

Stockbuilding, excluding the alignment adjustment,<sup>(1)</sup> added 0.4 percentage points to GDP growth in 1996 Q4. Stocks rose in the manufacturing, wholesale and retailing industries, which together contributed nearly 1 percentage point to GDP growth in 1996 Q4.

Improved stock-management techniques since the beginning of the 1980s have enabled firms progressively to reduce stock holdings relative to production. In 1980, firms held just under four months of production in stocks to meet sales during the year; stock holdings had been reduced to three months of production in 1990, and 2<sup>3</sup>/<sub>4</sub> months in 1994. But the ratio of stocks to output began to rise at the beginning of 1995, possibly because firms had overestimated the strength of demand. Accordingly, previous *Reports* argued that GDP growth in 1995 and 1996 would be constrained by firms running down excess stocks. That correction was evident during 1996—the stock-to-output ratio fell by 1.1% between the first and final quarters of 1996.

### *Public sector demand*

The PSBR for 1996/97, excluding privatisation receipts, was £27.2 billion, £3.7 billion lower than expected in the 1996 Budget. The undershoot of the PSBR largely reflects the strength of central government receipts: income and corporation taxation revenue were higher than forecast by £1.3 billion and £1.6 billion respectively. The strength of income tax revenue may be partly attributable to the strength of labour market

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(1) Previous *Reports* have argued that it is best to analyse stocks data excluding the alignment adjustment. See the November 1996 *Inflation Report*, page 22.

activity and large bonus payments (see Section 4). The overshoot of corporate tax could imply either that the effective tax rate rose or that the cyclical increase in company profits during 1995 and the beginning of 1996 was greater than expected. VAT receipts were lower than forecast by £0.6 billion, but part of that may have been due to the introduction of a new VAT payments scheme during 1996/97, which altered the timing of VAT payments. Spending was also weaker than anticipated, mainly because of lower departmental outlays.

## 3.2 Net external demand

The nominal effective exchange rate appreciated by a further 1½% between 7 February and 8 May, bringing the total increase since the appreciation began in August 1996 to 17½%. Although net exports reduced GDP growth in 1996, the exchange rate appreciation appears to have had little effect on trade volumes as yet. Net exports made no contribution to GDP growth in the second half of 1996, after reducing growth by 0.5 percentage points in the first half of the year (before the appreciation began). And net exports do not appear to have weakened markedly in 1997 Q1, although there is evidence of weaker export orders from surveys. Data for the volume of goods exported and imported suggest that net exports in goods may have increased in 1997 Q1 (see Table 3.C). But quarterly growth in the volume of service sector exports may have slowed in 1997 Q1: according to the BCC Survey, the balance of service sector firms reporting an increase in export deliveries fell to +22% in 1997 Q1 from +31% in 1996 Q4.

The economy has probably become more susceptible to the effects of an exchange rate appreciation than previously, as international competition has increased. Around one third of UK output was exported in 1996, compared with an average of 26% in the 1980s. According to the latest data available (for 1990), manufacturing exports accounted for just under half of the value added in total exports, and service exports accounted for just over 40%.<sup>(1)</sup> Imports as a share of total final expenditure rose to 24% in 1996 from an average of 19% in the 1980s—the exchange rate appreciation may lead to cheaper imports being

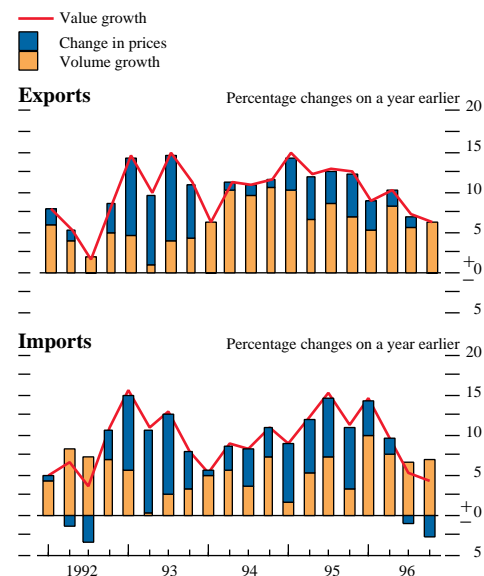
**Table 3.C**  
**Growth in goods trade volumes**

Percentage changes, latest three months on previous three months

	1996				1997		
	Mar.	June	Sept.	Dec.	Jan.	Feb.	Mar.
<b>Goods export volumes</b>	<b>1.9</b>	<b>2.1</b>	<b>1.0</b>	<b>1.7</b>	<b>1.2</b>	<b>2.4</b>	<b>n.a.</b>
<i>To:</i>							
EU countries	2.4	0.0	1.8	2.6	0.5	1.7	n.a.
Non-EU countries	1.1	5.2	-0.3	0.3	2.3	3.6	3.8
<b>Goods import volumes</b>	<b>4.2</b>	<b>0.4</b>	<b>1.3</b>	<b>1.1</b>	<b>2.3</b>	<b>1.6</b>	<b>n.a.</b>
<i>From:</i>							
EU countries	5.0	-2.5	3.0	1.9	2.2	1.4	n.a.
Non-EU countries	3.1	4.2	-0.7	0.1	2.4	1.8	1.1

(1) Gross export data, which are available on a more timely basis, include imported inputs into the production process and re-exported imports. Data on value-added exports by industry are only available for the United Kingdom from Input-Output tables. Trends in gross trade data by industry since 1990 suggest that manufacturing exports on a value added basis may have risen at a faster rate than service sector exports.

**Chart 3.9**  
Change in trade volumes and prices

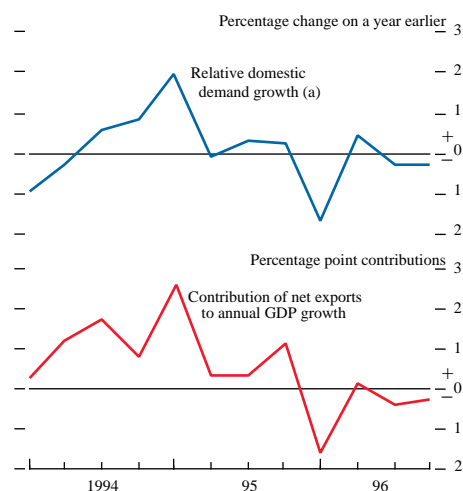


substituted for domestic products (both as intermediate inputs and as finished goods and services).

So why has the exchange rate appreciation not led to a significant fall in net exports as yet? There are several reasons why the effect on trade volumes has so far been limited. First, export and import volumes tend to be fixed by trade contracts in the short term. If a significant proportion of prices are specified in foreign currencies, then the initial effect will be to reduce the sterling trade values rather than volumes. This is consistent with the behaviour of trade volumes and prices in 1996 Q4: annual volume growth did not slow, while price inflation fell (see Chart 3.9).<sup>(1)</sup> But this effect should only be temporary—volumes will eventually adjust fully to prices as contracts are renegotiated.

Second, some of the resilience in export volumes may be due to an increase in the competitiveness of UK exports, reflecting either higher productivity in UK tradable industries or an increase in the demand for UK exports (perhaps because their quality is perceived to have improved).

**Chart 3.10**  
Relative demand growth and net exports



Note: GDP data are used for Belgium as no quarterly expenditure data are available.

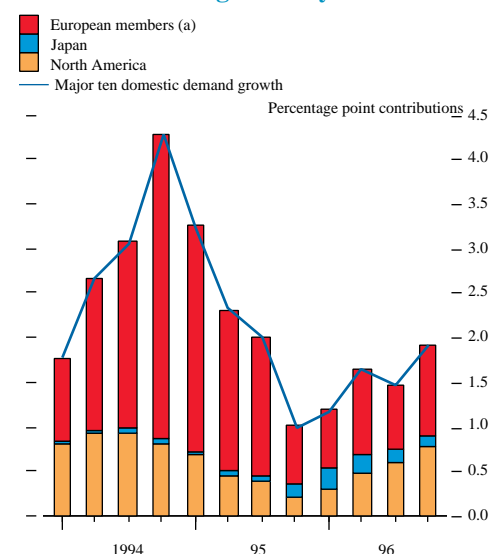
(a) Major ten domestic demand less UK domestic demand.

Net exports are influenced not only by fluctuations in the exchange rate, but also by growth in overseas domestic demand relative to the United Kingdom (see Chart 3.10). This helps to explain why net exports began to fall prior to the exchange rate appreciation. Annual growth in domestic demand of the major ten overseas economies<sup>(2)</sup>—weighted by UK export shares—slowed to 1.6% in 1996 from 2.1% in 1995 (see Chart 3.11). In comparison, annual growth in UK domestic demand increased to 2% in 1996, from 1.5% in 1995. The contribution of net exports to GDP growth from this source is likely to remain negative in 1997, unless overseas demand grows rapidly. Activity in Germany has shown some signs of strengthening recently. In France, improving business confidence has yet to translate into a significant pick-up in activity. In both these countries, the improvement in output expectations has largely been due to rising export orders. The recovery should be reflected in domestic demand as the year progresses. Real GDP growth in the United States, which increased to above trend by the end of 1996, increased further in the first quarter of 1997. And domestic demand in Japan strengthened during 1996.

(1) But as Section 5 explains, even the effect of the exchange rate appreciation on prices has not been very marked as yet.

(2) Defined as the Group of Ten, excluding the United Kingdom. They are the United States, Japan, Germany, France, Italy, Canada, Belgium, The Netherlands, Sweden and Switzerland.

**Chart 3.11**  
Contributions to annual major ten domestic demand growth by area



Note: GDP data are used for Belgium, as there are no quarterly expenditure data available.

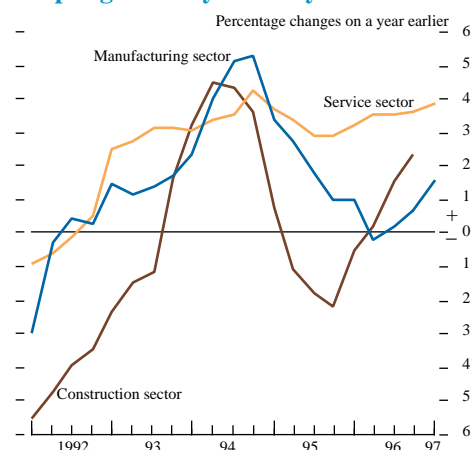
(a) Germany, France, Italy, Belgium, the Netherlands, Sweden and Switzerland.

**Table 3.D**  
Output by industry, 1990 prices

Percentage changes on previous period

	1995 Year	1996 Year	1996 Q4	1997 Q1
Agriculture	0.6	-1.4	-7.6	n.a.
Industrial production	2.6	1.2	0.6	0.1
of which:				
Mining	5.2	3.1	1.5	-1.3
Manufacturing	2.2	0.4	0.3	0.6
Utilities	3.1	5.7	1.5	-2.8
Construction	-1.0	0.9	1.3	n.a.
Services	2.9	3.5	1.1	1.2
of which:				
Distribution, hotels, catering and repairs	1.1	2.5	0.5	1.1
Transport and communications	5.6	4.3	1.2	n.a.
Financial and business services	4.7	5.9	2.1	n.a.
Government and other services	1.4	1.6	0.6	n.a.
<b>Total GDP</b>	<b>2.5</b>	<b>2.4</b>	<b>0.8</b>	<b>1.0</b>

**Chart 3.12**  
Output growth by industry<sup>(a)</sup>



(a) Industries shown represent 94% of total output. Industries not shown include agriculture, mining and utilities.

### 3.3

## Output

Output rose by 0.8% in 1996 Q4 and by around 1% in 1997 Q1 (see Table 3.D). The output measure of GDP has been above its long-run average quarterly growth rate since mid 1995.

During 1996, service sector output growth remained above its long-run average rate, and manufacturing and construction output strengthened (see Chart 3.12). So far, the exchange rate appreciation does not appear to have affected output significantly. Output growth was higher in 1997 Q1 than in the previous quarter. In part, the strength of service sector and manufacturing output reflects increasing domestic demand since the beginning of 1996 (see Chart 3.13). Although the net balance of both service sector and manufacturing firms reporting increased export orders fell in 1997 Q1, external demand has not yet deteriorated markedly.

Construction output picked up in the second half of 1996, increasing at an annualised rate of 4.5%, following an annualised increase of 0.2% in the first half of the year. This reflects the pick-up in expenditure on dwelling and commercial construction during the second half of 1996. Growth in construction orders over the second half of 1996 suggests that output continued to increase during the first quarter of 1997.

### 3.4

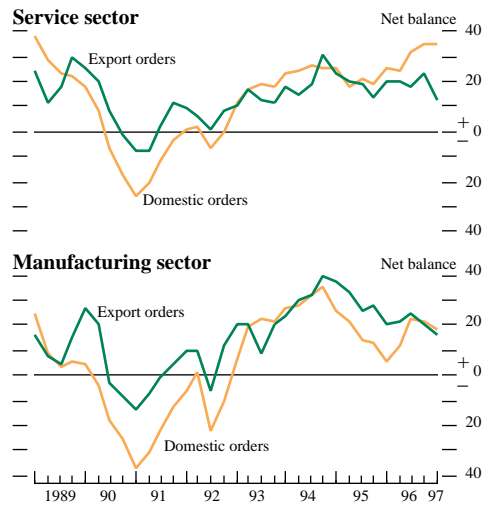
## Summary

Real GDP has accelerated since the beginning of 1996, and is now growing well above its 40-year average growth rate. Private final demand accounted for much of the increase in growth during 1996: consumption growth was above its long-run average. Private final demand is likely to remain strong in 1997.

The impact of the exchange rate appreciation on external trade during 1997 remains a major uncertainty. The effect has so far been surprisingly small, but this may be a matter of timing. The full extent of the effect depends on the reasons for the exchange rate appreciation.

Discerning the strength of activity over the past two years has been complicated by measurement problems. Survey evidence, robust labour demand and strong broad money growth all suggest that current estimates of GDP may be understating the pace of growth. This is particularly the case for the expenditure measure of

**Chart 3.13**  
**Domestic and external demand:**  
**BCC survey**



Source: British Chambers of Commerce.

GDP, and growth in some of the expenditure components is likely to be revised upwards.

**Table 4.A**  
Changes in the demand for labour

Thousands

	1996				1997
	Q1	Q2	Q3	Q4	Q1
<b>Employment</b>					
LFS (a) measure	11	79	127	135	n.a.
WIE measure	-50	10	216	47	n.a.
ONS manufacturing	-12	-32	14	-2	n.a.
<b>Hours worked per week (b)</b>					
ONS measure	-0.9	0.6	1.1	0.7	n.a.
LFS (a) measure	0.4	0.7	0.5	-0.5	n.a.
<b>Unemployment</b>					
Claimant count (c)	-39	-51	-114	-184	n.a.
LFS (a) unemployment	-13	-67	-34	-111	n.a.
<b>Vacancies</b>	6.8	23.7	34.8	12.7	8.8

(a) The Labour Force Survey is conducted in Great Britain on a seasonal basis. For example, Q4 data cover the winter period, defined as December, January and February.

(b) Percentage changes.

(c) Quarters defined as for the Labour Force Survey.

**Table 4.B**  
Job surveys

Percentage balance of employers planning to recruit staff

		1996			1997	
		Q2	Q3	Q4	Q1	Q2
BCC (a)	Services	18	22	16	25	n.a.
	Manufacturing	11	19	6	16	n.a.
CBI (b)	Manufacturing	-17	-13	-12	3	n.a.
Manpower (a)	Services	10	14	19	4	15
	Manufacturing	14	18	16	15	19

Sources: British Chambers of Commerce, CBI and Manpower.

(a) Next three months.

(b) Next four months.

The labour market tightened further during the first quarter of the year, and faster than in the second half of 1996. Employment continued to rise. Claimant unemployment fell more rapidly in the first quarter of 1997 than during last year. This partly reflected benefit changes resulting from the introduction of the Jobseeker's Allowance. But the Labour Force Survey measure of unemployment also fell sharply. And the stock of vacancies reached a record level.

Underlying nominal earnings per worker grew by 5% in the year to February, up from 4 $\frac{1}{4}$ % in the year to November 1996. Wage settlements, however, were broadly stable at just over 3%.

## 4.1 Demand for labour

Employment rose by 135,000 in winter<sup>(1)</sup> 1996/97, following a rise of 127,000 in the autumn, according to the Labour Force Survey (LFS) (see Table 4.A). The Workforce in Employment (WIE) Survey showed an increase in employment of 47,000 in 1996 Q4. Total hours worked fell by 0.5% in winter 1996/7, according to the LFS. This recorded fall may partly arise from problems with seasonal adjustment and sampling bias, given large monthly fluctuations in total hours worked. The ONS measure of total hours worked rose by 0.7% in 1996 Q4.

Reports from the Bank's Agents and recent surveys confirm that the demand for labour is strong. As Table 4.B shows, the British Chambers of Commerce (BCC) Quarterly Survey reported that the expected demand for labour increased in 1997 Q1 in both services and manufacturing. The Confederation of British Industry (CBI) Quarterly Industrial Trends Survey reported in April that more manufacturing firms expect to increase employment than to reduce it over the coming four months, for the first time since the beginning of 1989. And the most recent Manpower Survey shows that labour demand was expected to increase in 1997 Q2.

(1) Winter covers the period December, January and February.

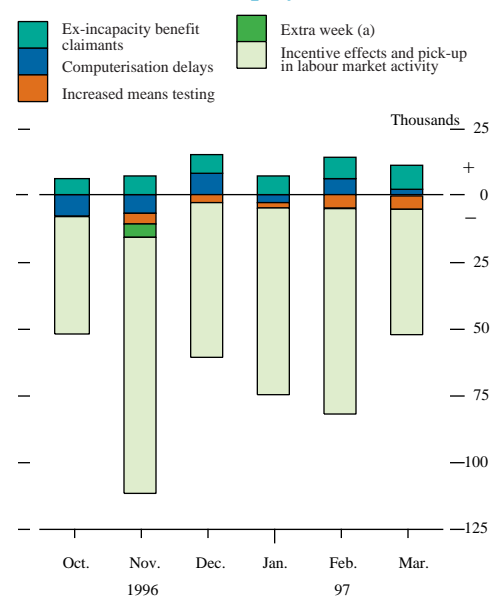


## 4.2 Labour market tightness

Labour market tightness reflects the excess of labour supply over labour demand at current wage rates. There are several indicators of labour market tightness, including unemployment (of which there are two main measures, claimant unemployment and the LFS), skill shortages and the stock of vacancies at Jobcentres. All these indicators suggest that the labour market has continued to tighten over the past few months.

Claimant unemployment fell by a monthly average of 60,600 over the six months to March 1997, compared with an average monthly fall of 19,300 over the previous six months. 6.1% of the workforce was unemployed in March, the lowest rate for over six years. The claimant count has, however, been affected by the introduction of the Jobseeker's Allowance (JSA). The JSA introduced means testing after six rather than twelve months of benefit payments and reduced the number of postal claimants. Increased means testing has reduced the claimant count by around 20,000 since the JSA was introduced, but the fall in the number of postal claimants is unknown. At the same time, inflows of ex-incapacity benefit claimants added to the claimant count. There have also been delays in registering new claims during the conversion to a new computer system, although the backlog is now being processed (see Chart 4.1). The immediate 'administrative' effect of the JSA on claimant unemployment is expected to end in May, when all current claimants should have a Jobseeker's agreement, committing them to a plan for finding work.

**Chart 4.1**  
Estimated effects of benefit changes on claimant count unemployment



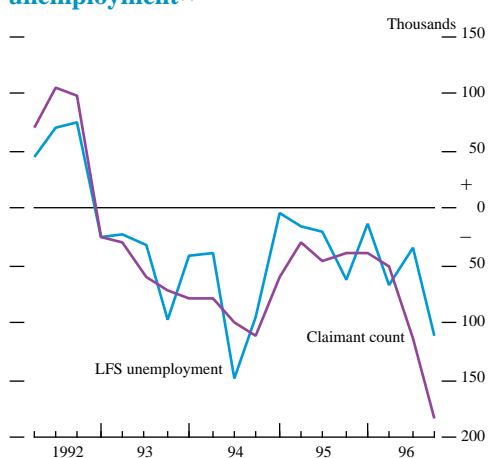
(a) November was a five-week month.

The most significant effect of the JSA has, however, been on incentives. In the short run, the JSA has removed from the unemployment register claimants not actively looking for work or already working. In the long run, the JSA should increase the efficiency with which the unemployed search for work (increasing the rate of outflow from unemployment into employment), and may deter potential claimants who are not actively searching (reducing the potential rate of inflow into unemployment). So the labour market may not have tightened as much as the claimant unemployment figures suggest. In other words, the introduction of the JSA has probably led to a fall in the rate of claimant unemployment consistent with the long-run equilibrium—or natural—rate.<sup>(1)</sup>

(1) For discussion of the reasons for, and estimation of, time-varying natural rates of unemployment, see Stiglitz, J, 'Reflections on the Natural Rate Hypothesis' and Gordon, R J, 'The Time Varying NAIRU and its Implications for Economic Policy', both in the *Journal of Economic Perspectives*, Volume 11(1), Winter 1997.



**Chart 4.2**  
**Change in LFS and claimant count**  
**unemployment<sup>(a)</sup>**



(a) Quarterly claimant unemployment constructed to align with Labour Force Survey periods, ie Q4 = December, January, February. The average stock in those three months is then compared with the average stock in the previous three months.

The evidence from previous changes in labour market policies supports the view that the rate of claimant unemployment consistent with the natural rate may have fallen. The Restart programme —introduced in 1986— encouraged the longer-term unemployed to search more actively for work through a process of regular interviews. One study found that up to 20% of the fall in unemployment in the following year was as a result of Restart, rather than increased labour demand.<sup>(1)</sup> More recently, two Project Work pilot schemes were introduced in April 1996, involving 6,000–8,000 people unemployed for two years or more. The schemes offer intensive help with job search, followed by compulsory work experience. Early results indicate that 25% more people left the unemployment register in the two pilot areas than in comparable areas outside the schemes.<sup>(2)</sup> The schemes have been extended to cover 29 new pilot areas.

The LFS provides an alternative to the claimant measure of unemployment, based on a standardised international definition. The LFS measures unemployment by asking individuals directly whether they have been looking for a job in the past four weeks and are able to start work in the next two weeks. As a measure of labour market tightness, the LFS is less likely than the claimant count to be affected by the JSA. But it is less timely than the administrative claimant count measure and, because it is based on a survey, is subject to sampling error.

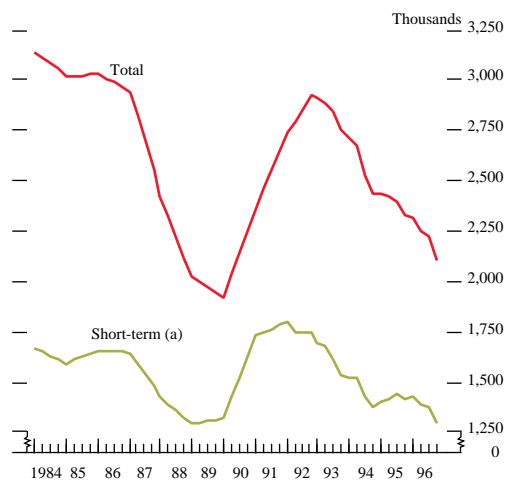
LFS unemployment fell by 111,000 in winter 1996/7, compared with a fall in the claimant count of 184,000 over the same period.<sup>(3)</sup> As Chart 4.2 shows, the difference between the two measures was unusually large, consistent with a substantial short-term incentive effect from the JSA on the claimant count. Although some former claimants became ineligible for unemployment-related benefits under the new system, they may have described themselves as searching for work and so have been counted as unemployed under the LFS definition. And the fall in LFS unemployment in winter 1996/97, the largest since autumn 1994, was more than matched by an increase in LFS employment over the same period. This suggests that a significant part of the fall in unemployment over the past few months has resulted from increased labour demand as well as from changes to the benefits system.

(1) Dicks, M J and Hatch, N (1989), 'The Relationship between Employment and Unemployment', *Bank of England Discussion Paper*, No 39.

(2) Information provided by the Department for Education and Employment.

(3) The administrative claimant count is calculated on the basis of the numbers unemployed on the day the count is made each month; this is converted to an LFS-equivalent measure by taking a three-month average for the period December to February.

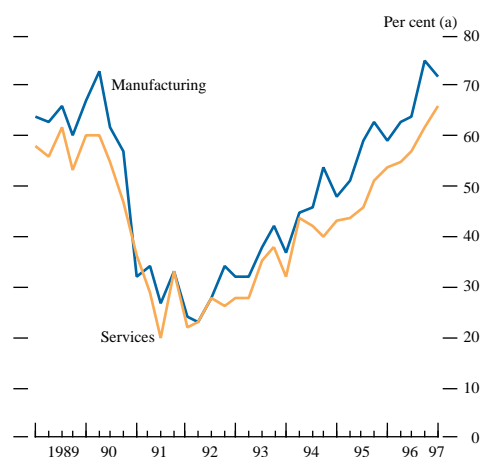
**Chart 4.3**  
**Short-term and LFS unemployment**



Sources: LFS and Bank of England.

(a) Calculated as the difference between seasonally adjusted total unemployment and non-seasonally adjusted long-term unemployment, assuming there is no seasonal pattern in the latter.

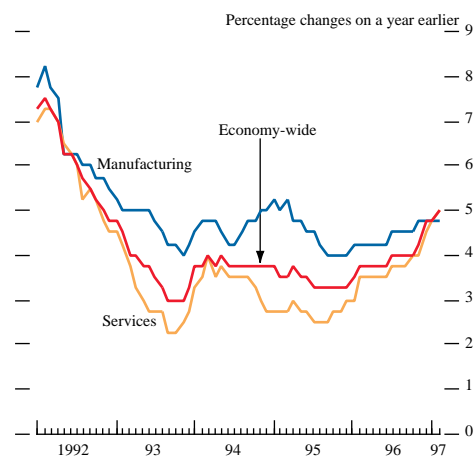
**Chart 4.4**  
**British Chambers of Commerce recruitment difficulties**



Sources: British Chambers of Commerce.

(a) Percentage of respondents answering 'yes' when asked whether they have experienced recruitment difficulties.

**Chart 4.5**  
**Underlying earnings growth<sup>(a)(b)</sup>**



(a) Underlying earnings growth for Great Britain makes allowances for temporary influences such as arrears, variations in the timing of settlements, industrial disputes and the influence of public holidays in relation to the survey period.  
(b) For full-time employees.

Short-term unemployment—those unemployed for less than a year—may be a better indicator of labour market conditions than total unemployment. The long-term unemployed, with declining or outdated skills, may be less attractive to employers, so their availability has less effect on wages. As Chart 4.3 shows, short-term LFS unemployment was around 1.3 million in winter 1996/97, only around 5,000 above its trough in spring 1989.<sup>(1)</sup> Total LFS unemployment was, at 2.1 million in winter 1996/97, around 217,000 above its trough in spring 1990. Wage pressures are probably greater than the aggregate unemployment rate suggests.

Problems in recruiting workers have intensified, according to reports from the Bank's Agents and recent surveys. The balance of respondents to the BCC Survey reporting recruitment difficulties in services rose from 22% in 1992 Q1 to 66% in 1997 Q1 and the manufacturing balance rose from 24% to 72% over the same period, as Chart 4.4 shows. The latest CBI Quarterly Industrial Trends Survey also shows that skill shortages increased in the manufacturing sector: a balance of 11% of manufacturers reported shortages of skilled labour in 1997 Q1, compared with a balance of 4% in 1992 Q1.

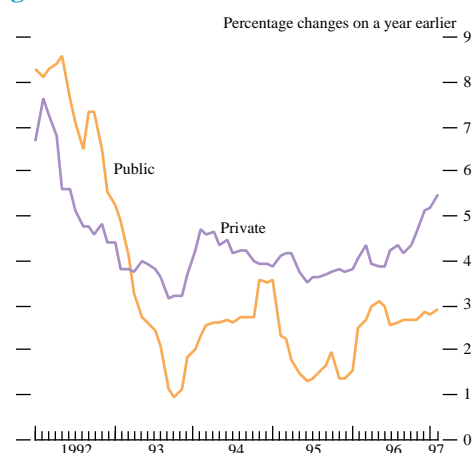
The number of vacancies advertised at Jobcentres, covering around a third of all vacancies in the economy, rose by a monthly average of 2,900 in the quarter to March. The stock of vacancies reached 275,100 in March, its highest level since the series began in January 1980. Although the high level of vacancies is partly a result of the introduction of a new computer system into Jobcentres, large numbers of notifications of new vacancies have recently increased the stock. Notifications rose by a monthly average of 7,900 in the quarter to March to 249,500, also the highest level since January 1980. This suggests that firms are experiencing staff shortages, which is consistent with a tighter labour market.

## 4.3 Nominal earnings

Earnings growth has risen since the February *Report*, but settlements are little changed. As Chart 4.5 shows, nominal underlying average earnings grew by 5% in the year to February, up from 4<sup>1</sup>/<sub>4</sub>% in the year to November and 3<sup>3</sup>/<sub>4</sub>% the previous February. Service sector earnings

(1) Seasonally adjusted short-term unemployment is calculated by taking long-term unemployment, assumed to be non-seasonal, from seasonally adjusted total LFS unemployment.

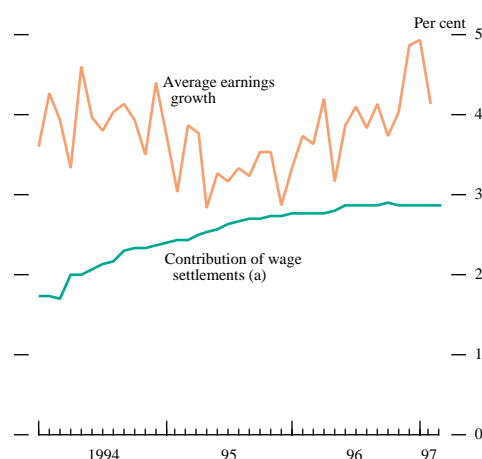
**Chart 4.6**  
Average public and private sector earnings growth<sup>(a)(b)(c)</sup>



Sources: ONS, New Earnings Survey and Bank of England.

- (a) The proxy for public sector earnings growth is constructed by weighting earnings in public administration and education, health and social work by their employment share; the private sector proxy is created by weighting private sector earnings by the private sector employment shares.  
 (b) Centred three-month moving average.  
 (c) For full-time employees.

**Chart 4.7**  
The contribution of wage settlements to annual average earnings growth



Sources: ONS and Bank measures of settlements based on data from the CBI, Industrial Relations Services and Income Data Services, with weights from the New Earnings Survey.

- (a) Twelve-month employment-weighted mean. The contribution of wage settlements to average earnings growth is calculated by weighting wage settlements by the share of basic pay in total earnings.

**Table 4.C**  
Profit-related pay schemes

	Number of schemes	Number of employees in schemes
1988	615	89,950
1989	869	122,100
1990	1,175	232,000
1991	1,277	350,000
1992	2,597	718,069
1993	4,615	1,167,400
1994	7,039	1,794,000
1995	9,425	2,438,000
1996	12,740	3,596,000
1997	14,508	4,098,499

Note: The figures refer to March of each year.

Source: Inland Revenue statistics.

grew faster than manufacturing sector earnings, for the first time in almost five years, by 5% in the year to February compared with 4<sup>3</sup>/<sub>4</sub>% in the manufacturing sector.

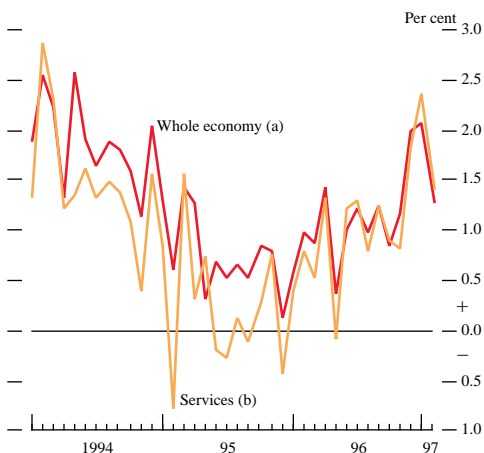
Chart 4.6 shows that the gap between underlying private and public sector earnings has widened since early 1996. Private sector earnings grew by around 5<sup>1</sup>/<sub>2</sub>% in the year to February, while public sector earnings grew by around 3% over the same period.

There are two elements to earnings growth: wage settlements and 'wage drift'. The latter includes bonuses, profit-related pay (PRP) and overtime. Settlements have not contributed significantly to the recent increase in earnings, as Chart 4.7 shows. The Bank's three-month average of employment-weighted mean settlements—which includes data from the Bank's Agents, the CBI, Industrial Relations Services and Incomes Data Services—fell to 3.1% in March from 3.5% in December and 3.3% the previous March. The median measure was stable at around 3% between December and March, having fallen from 3.4% in the previous March. Settlements were higher on average in the private sector than in the public sector, at 3.1% and 2.9% respectively.

The February *Report* suggested that the profitability of the financial sector in 1996 could lead to relatively high bonuses—and service sector wage drift—this year. Chart 4.8 shows that the contribution of wage drift rose rapidly at the end of 1996, driven by the service sector. This may exaggerate the recent pick-up in earnings growth, since it includes months when large bonuses were paid. The rate of earnings growth in February may be a better indicator of the rise in earnings growth, without the temporary effects of bonuses, since relatively few bonuses are paid in that month compared with the previous two. The growth of whole-economy average earnings in the year to February fell to 4.2% from 4.9% in January and 5% in December.

An increase in the number of profit-related pay schemes, together with rising profits, could also have contributed to high earnings growth in recent months. As Table 4.C shows, the number of PRP schemes has risen throughout the 1990s, and the increase in 1996—of more than a third—was particularly large. These schemes now cover 4.1 million people, around a fifth of all employees. Overtime working may not have contributed much to the recent increase in wage drift. If it had, earnings per hour

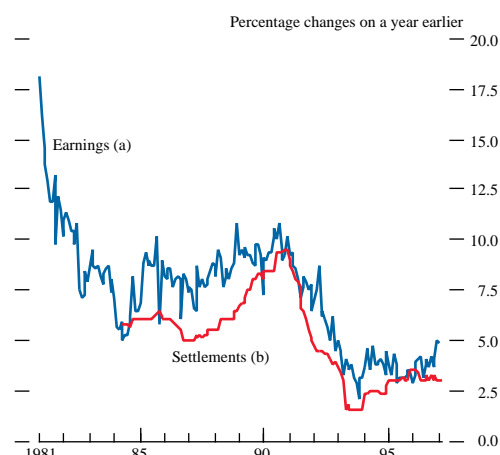
**Chart 4.8**  
**The contribution of wage drift to annual average earnings growth: whole-economy and service sector**



Sources: Bank measure of settlements based on data from the CBI, Industrial Relations Services and Income Data Services, with weights from the New Earnings Survey.

- (a) Twelve-month employment-weighted mean, calculated by subtracting the contribution of settlements from earnings growth.  
 (b) Twelve-month employment-weighted mean, calculated by subtracting the contribution of service sector settlements from service sector earnings growth.

**Chart 4.9**  
**Whole-economy earnings growth and settlements**



- (a) ONS average earnings.  
 (b) IRS settlements over the previous three months.

would have risen more slowly than earnings per head, but they have grown at similar rates since the beginning of 1996.

Current wage settlements lead earnings growth in the sense that average earnings reflect what has happened to a weighted average of settlements over the past year. But the relationship also runs in the other direction: an increase in bonuses or overtime, for example, contributes to wage drift, which increases earnings and can affect future settlements. Chart 4.9 shows that turning points in settlements and earnings growth roughly coincide. But statistical tests suggest that earnings growth tends to lead settlements.<sup>(1)</sup> Negotiators may use recent earnings increases as a guide to the ‘going rate’ for wage settlements. Firms can react to unexpected events that occur between settlement dates, such as increases in demand for their goods, by increasing overtime hours. If the rise in demand is viewed as permanent, the next settlement will take into account the increase in earnings since firms may need to pay more to recruit and retain labour. This suggests that the recent pick-up in earnings could influence wage settlements over the coming year.

If whole-economy productivity growth were to continue at its average of the past 40 years—just over 2% per year—nominal earnings growth of over 4½% would be unlikely to be consistent with the inflation target. Part of the recent increase in earnings growth is the consequence of temporarily large bonuses. Even if there are no second-round effects on future wage bargaining, however, the growth rate of private sector earnings is currently at or above the maximum likely to be consistent with the inflation target.

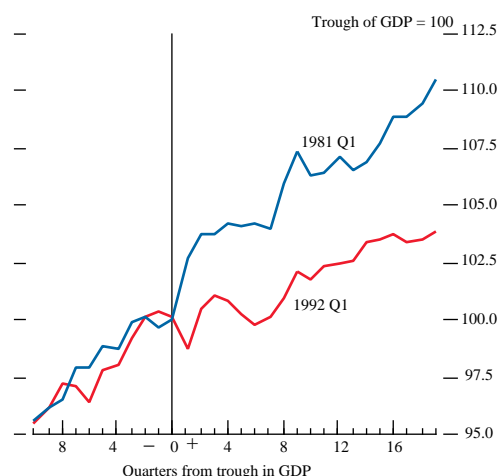
## 4.4

## Real earnings

As Chart 4.10 shows, real product wages per employee have grown more slowly during the current recovery than in the previous one. The real product wage is the relevant measure of earnings for employers, since it measures the real cost of labour to employers. The real product wage includes employers’ social security contributions and deflates earnings by the GDP deflator, an index of economy-wide domestic prices. The real product wage has risen by around 4% since the beginning of the current recovery; it increased by more than 10% over the same period in the previous recovery.

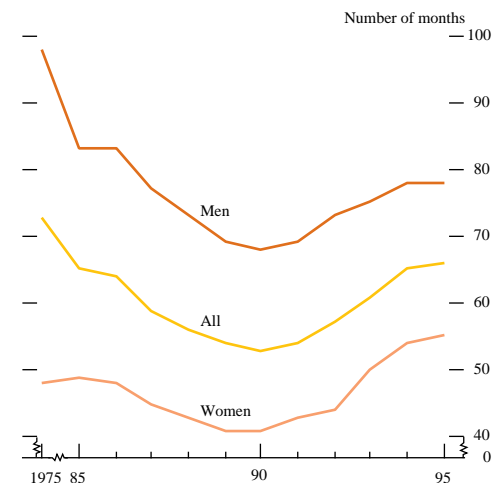
(1) These tests update statistical results which were first discussed in the August 1993 *Report*.

**Chart 4.10**  
Real product wage per employee<sup>(a)</sup>  
around recessions



(a) The real product wage is defined as the sum of wages and salaries plus employers' contributions, divided by the GDP deflator at factor cost. This is then divided by UK employees in employment plus HM forces.

**Chart 4.11**  
Average number of months in current job<sup>(a)</sup>



Source: Employment Policy Institute, *Employment Audit*, Autumn 1996.

(a) Median number of months; those for 1975–91 are estimates.

**Table 4.D**  
Number of people making at least one claim for  
unemployment-related benefits<sup>(a)</sup>

Five-year period	Number of claimants (millions)	Percentage of working-age population
1985	5.3	15.9
1986	5.4	16.1
1987	5.1	15.1
1988	4.4	13.0
1989	3.8	11.2
1990	3.8	11.1
1991	4.7	13.8
1992	5.3	15.5
1993	5.4	15.7
1994	5.0	14.6
1995	4.6	13.4
1996	4.2	12.2

Sources: ONS and LFS.

(a) Great Britain.

One possible explanation for relatively subdued wage behaviour in the current recovery is increased job insecurity, which would lead workers to accept lower pay increases at given rates of unemployment. Insecurity can be measured in a number of ways, including average job tenure, changing employment trends, the frequency of unemployment spells and surveys of workers' attitudes.

Chart 4.11 shows that average job tenure has changed very little on balance over the past 20 years. Average tenure shortened from just over six years in 1975 to 5½ years in 1995; it is longer now than in 1990, when it reached a low of around 4½ years. The pattern is different for women and men: average female job tenure is longer now than ten years ago, whereas average male tenure is slightly shorter. Longer average tenure could itself be a sign of insecurity, if insecurity makes people less likely to want to change jobs.

Part-time and temporary work have increased during the current recovery. Full-time permanent employment fell by 0.2% between spring 1992 and winter 1996/97, and part-time employment rose by 11.8% over the same period. Since 1995, however, part-time employees have had the same level of statutory employment protection as full-time employees, and the number of full-time jobs has increased over the past year. Although temporary employment has risen, the increase has not been large and temporary employment remains a small proportion of total employment, rising from 4.4% of employees in summer 1992 to 5.3% in summer 1996.<sup>(1)</sup>

Table 4.D shows the proportion of the workforce that was unemployed at some point in the previous year.<sup>(2)</sup> This was at its lowest in 1990 and highest in 1986. The number of people experiencing at least one period of unemployment began rising in 1991. But the proportion experiencing unemployment has not reached the rates of the mid 1980s, and since 1993 the number and the proportion of people experiencing unemployment have both fallen.

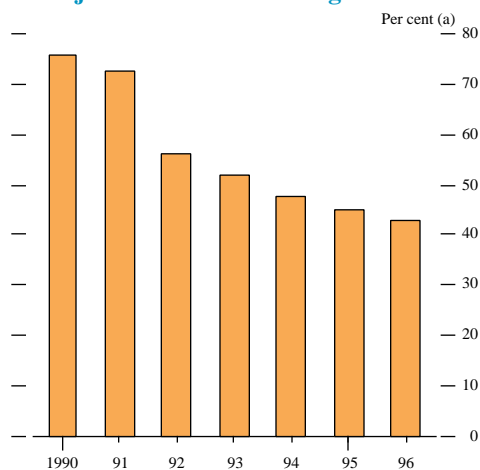
So there does not seem to be much tangible evidence of job insecurity. But there is some survey evidence that employees' perceptions of insecurity may have

(1) These percentages exclude temporary employees who respond to the LFS survey that they do not want permanent employment, on the assumption that they do not feel insecure in their chosen form of tenure.

(2) This is taken from the ONS longitudinal database, JUVOS, which contains a record of 5% of all claims for unemployment-related benefits since 1982.



**Chart 4.12**  
**Percentage of employees who feel secure in their jobs in the United Kingdom**



Source: International Survey Research.

(a) The average percentage of respondents who were confident about the future of their company; who felt their company offered a level of job security at least as good as that offered by other companies in the industry; who agreed that they could be sure of their job in the company, as long as they performed well; who felt satisfied with their job security.

increased. Chart 4.12 shows that, according to a survey by International Survey Research (ISR) of around 70 companies with over 170,000 employees in total, UK employees' feelings of security have been falling steadily during the 1990s. While 76% of workers felt secure in 1990, this fell to 43% in 1996. Employees may be worried that their skills will become out of date as new technologies are introduced. US surveys by ISR suggest that this is a temporary phenomenon: once employees have adjusted (through on-the-job training, for example) they begin to feel more secure.

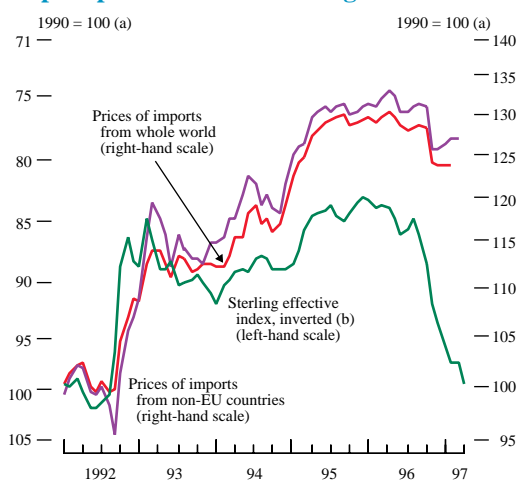
Nominal earnings depend on the inflation rates expected by employers and employees, as well as the real earnings over which they bargain. Inflation expectations are not easily measured, although surveys provide some information. The latest Barclays Basix Survey found that inflation expectations one and two years ahead were little changed in the first quarter of the year compared with the previous quarter (see Section 6 for further discussion of this issue).

## 4.5

## Summary

Most of the indicators suggest that the labour market tightened further and faster over the past few months. Earnings also accelerated—partly because of relatively high bonus payments—which could have implications for settlements over the coming year. Private sector earnings, in particular, are growing at or above the maximum rate consistent with the inflation target set in 1995.

**Chart 5.1**  
**Import prices and the exchange rate**



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

Sources: ONS and Bank of England.

- (a) Both scales are logarithmic.
- (b) Monthly average of daily rates. A rise in the line reflects a depreciation.

Cost pressures in manufacturing remain weak. But the service sector shows signs of rising inflationary pressure, evident from labour costs.

## 5.1 Import prices and the exchange rate

Non-oil goods import prices have not yet fully reflected sterling's appreciation since August (see Chart 5.1). Between August and February, the most recent month for which import price data are available, the sterling effective exchange rate rose by 15%, but non-oil import prices fell by only 4%. Pass-through thus far has been slower than the experience of previous exchange rate movements might have suggested.

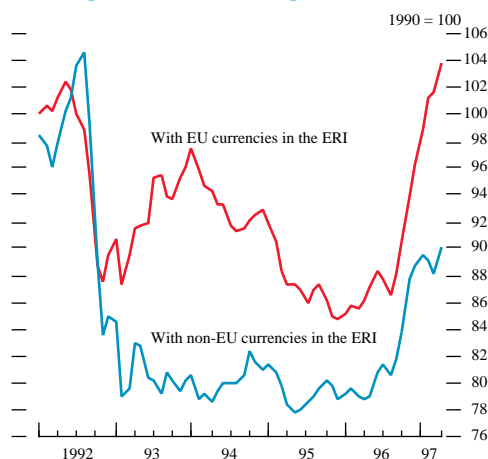
To a considerable extent the speed of pass-through into recorded import prices depends on the contractual arrangements between foreign exporters and UK importers—for example the currency in which payments are denominated, and the duration of the contract. These factors may well have changed since previous episodes of exchange rate change.

There should still be some pass-through into goods import prices to come. The effective exchange rate against EU currencies rose by 17% between August and February while import prices of goods from the European Union—over 50% of the United Kingdom's trade—fell by only 4.2% over the same period. This implies that import price falls from the European Union, at least, have been delayed. This may be because foreign exporters tend to hold their sterling prices constant in the first few months of an exchange rate movement before deciding that it is large and permanent enough to warrant a change in pricing. If the strength of sterling persists, and firms perceive that it is permanent, that change is more likely to be made. So imported goods prices will probably fall further during 1997.

The slower pass-through may also partly reflect the incomplete coverage of the effective exchange rate index (ERI). The ERI is a composite of 20 bilateral sterling exchange rates weighted by the relative importance of UK goods trade with each country. But it includes countries which comprise only about 80% of UK trade



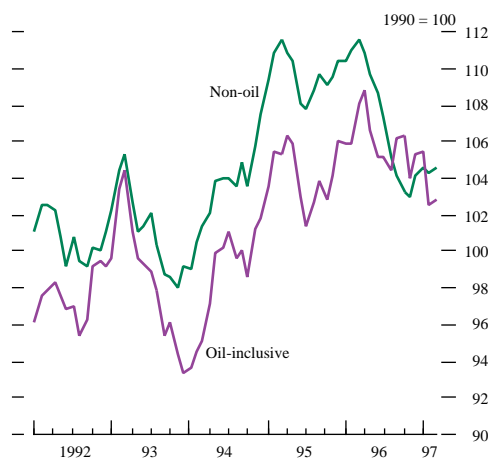
**Chart 5.2**  
Sterling effective exchange rates<sup>(a)</sup>



Sources: IMF and Bank of England.

(a) Monthly average of daily data.

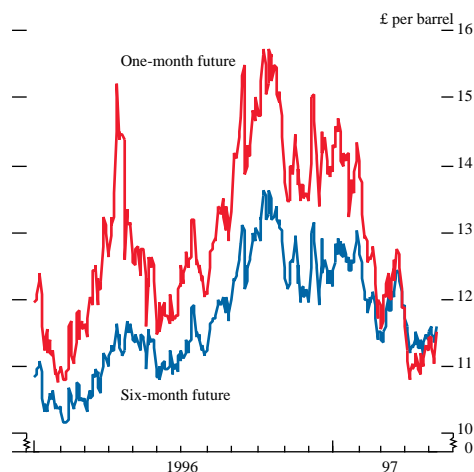
**Chart 5.3**  
Bank sterling commodity price index<sup>(a)</sup>



Source: Bank of England.

(a) Monthly average of prices of primary commodities, weighted by their importance in UK demand.

**Chart 5.4**  
Price of Brent crude<sup>(a)</sup>



Source: International Petroleum Exchange.

(a) Daily prices. Final observation is for 8 May.

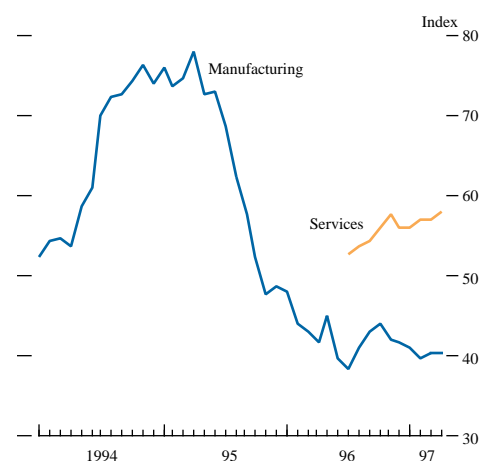
and excludes some important countries outside Europe such as the Asian newly industrialised economies. Sterling has appreciated much more against EU than non-EU currencies within the ERI since August (see Chart 5.2). And that also seems to be true for non-EU currencies outside the ERI. For example, the monthly average of sterling's rate against the Taiwanese and Malaysian currencies rose by less than 5% between August and February. If most of the excluded currencies have moved in a similar way to the non-EU part of the basket, the ERI has overstated the true change in the trade-weighted exchange rate since August. But that bias does not appear to be very large. An estimate of the sterling effective exchange rate that increases the coverage of bilateral exchange rates to about 95% of UK trade suggests that the 15% rise in the ERI between August 1996 and February 1997 overstates the true rise in sterling's effective rate by only about 1.5 percentage points.

The most recent data for the prices of imported services show that they fell by 1.7% in the third quarter of 1996, and by 1.8% in the fourth quarter. About 45% of UK service sector imports are from the European Union, compared with about 55% of goods imports. Because sterling has risen more since August against EU than against non-EU currencies, a sterling effective exchange rate weighted by UK service sector trade is likely to have risen less than the ERI. This implies that the effect of sterling's appreciation since August on all UK import prices will be slightly smaller than the effect on imported goods prices alone.

## 5.2 Raw material and commodity prices

The Bank's demand-weighted sterling commodity price index rose by 0.3% in March. Rises in metals and imported foods prices were partly offset by falls in the prices of oil and other fuels. The index in March was 4.9% below the level of a year earlier (see Chart 5.3). Prices of the non-fuel imported elements of the index—metals, foods and non-food agriculture—have been rising since December despite further sterling appreciation over that period, reflecting the strength of world commodity prices. The sterling oil price (monthly average of the Brent crude one-month future) fell in the first four months of 1997 (see Chart 5.4). But the spread of one-month future over six-month future oil prices narrowed rapidly in February and March to below its average over the past five years, and was negative throughout April. This suggests that oil

**Chart 5.5**  
CIPS surveys: input cost indicators<sup>(a)</sup>



Source: Chartered Institute of Purchasing and Supply.

(a) Respondents are asked to compare the costs of inputs in the current month with those in the previous month. A figure above 50 indicates rising input costs.

prices are not expected to fall in the five months after May.

### 5.3 Costs in the service sector

A new survey suggests that service sector cost pressures are higher than those in manufacturing. The Chartered Institute of Purchasing and Supply (CIPS) has begun to publish the results of its monthly survey of service sector firms. The survey asks 500 companies in the UK private service sector (excluding the retail and wholesale sectors) about changes in their input and output prices, employment and business activity. The indices derived from responses to each question may not be strictly comparable to their equivalents in the CIPS manufacturing survey. In particular, the service sector survey asks respondents to report changes in all costs—including wages and salaries—rather than just physical inputs, as in the manufacturing survey. The service sector input cost indicator has been rising, while that for the manufacturing sector has been broadly flat (see Chart 5.5).

The survey results are consistent with reports from the Bank's Agents that service sector companies are recruiting more staff, and facing faster-growing wage costs, than manufacturing firms. The CIPS employment indicator for the service sector has been well above the neutral level of 50 since the survey began in July 1996, whereas the employment indicator for manufacturing has been around 50 since July. Service sector earnings growth overtook that in manufacturing in February, though that was partly because of bonuses in the financial sector (see Section 4). The most recent data available suggest that service sector unit wages were still quite weak in the fourth quarter of 1996. However, as noted in the February *Report*, this probably reflects the effects of service sector output growing faster than employment in the short run.

**Table 5.A**  
Short-run measures of producer price inflation<sup>(a)</sup>

	1996		1997		
	Nov.	Dec.	Jan.	Feb.	Mar.
<i>Three-month annualised percentage changes</i>					
Input prices	-11.5	-13.5	-16.0	-7.8	-7.2
- excluding FDTP industries (b)	-7.6	-10.4	-13.3	-6.6	-1.5
Output prices (c)	3.0	2.9	1.3	0.0	-1.3
- excluding FDTP industries (b)	1.0	1.3	0.3	0.3	0.0
- excluding excise duties (PPIY)	2.3	0.7	-1.0	-1.6	-1.6
<i>One-month percentage changes</i>					
Input prices	-3.0	-0.6	-0.6	-0.7	-0.5
- excluding FDTP industries (b)	-2.1	-0.9	-0.5	-0.3	0.4
Output prices (c)	0.2	0.3	-0.2	-0.2	0.0
- excluding FDTP industries (b)	0.1	0.2	-0.2	0.1	0.1
- excluding excise duties (PPIY)	-0.1	0.0	-0.2	-0.2	0.0

(a) Seasonally adjusted by the ONS, except where noted.

(b) FDTP is food, drink, tobacco and petroleum.

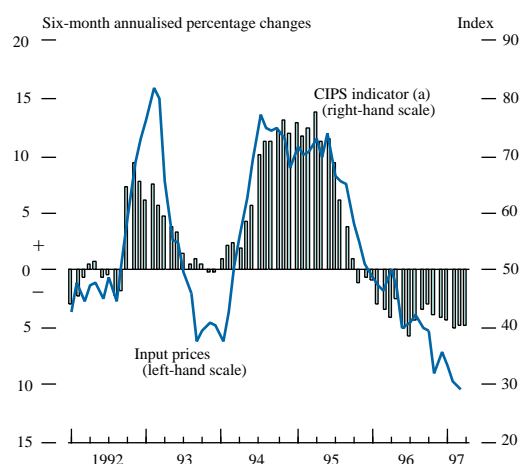
(c) The ONS does not publish a seasonally adjusted headline output price series. To retain excise duty effects, these data are based on the seasonally adjusted tax-exclusive output price series multiplied by the ratio of unadjusted tax-inclusive to tax-exclusive prices.

### 5.4 Costs and prices in manufacturing

Manufacturers' costs have continued to weaken since the February *Report*. Output prices have also fallen (see Table 5.A).

The prices of materials and fuels purchased by manufacturing industry fell by 7.6% in the twelve months to March. The fall was broadly based: all eight components of the input price index fell over the twelve months. But more recently, the imported elements of the

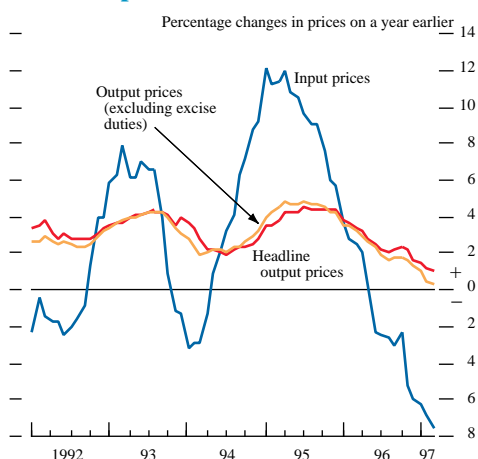
**Chart 5.6**  
**Input price inflation and the CIPS purchase price indicator**



Sources: Chartered Institute of Purchasing and Supply and ONS.

(a) Respondents are asked to compare the prices of purchases in the current month with those in the previous month. A figure above 50 indicates rising prices.

**Chart 5.7**  
**Producer price inflation**



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

Percentage changes over the period shown, except where noted.

	1995	1996			1997
	Year	Q2	Q3	Q4	Q1 (a)
<b>Unit costs</b>					
Unit labour costs	3.1	0.8	0.6	0.7	0.3
of which: (b)					
Average earnings	4.5	0.9	1.2	1.2	0.7
Productivity	1.3	0.2	0.5	0.4	0.6
Materials and fuels (including semi-finished manufactured imports)	10.8	-1.6	-2.5	-1.5	-2.0
Imports of finished manufactures	8.6	-1.3	-0.2	-0.6	-1.1
Services	1.8	0.6	0.7	0.5	0.4
<b>Weighted costs</b>	<b>5.1</b>	<b>0.0</b>	<b>-0.1</b>	<b>0.0</b>	<b>-0.3</b>
<b>Output prices (c)</b>	<b>4.4</b>	<b>0.3</b>	<b>0.0</b>	<b>0.2</b>	<b>0.0</b>

Sources: ONS and Bank of England.

(a) Average of January and February.  
 (b) Unit labour costs also include employers' National Insurance Contributions.  
 (c) Domestic sales.

index—excluding oil and other fuels—have risen. Prices of three out of the four imported components either rose or were unchanged in February and March, despite sterling's continued appreciation in 1997. This was probably because exchange rate movements were more than offset by rises in world commodity prices, which have a large influence on imported input prices. Some easing of the downward pressure on input prices is consistent with the recent increase in the input price indicator in the CIPS manufacturing survey (see Chart 5.6). Although still below the neutral level of 50, the index rose from 39.7 in February to 40.5 in March and April. If commodity prices continue to rise, the imported element of the input price series—55% of the total—may rise again after March.

Manufacturing output price inflation is very low (see Chart 5.7). The twelve-month rate has fallen steadily from 2.1% in November to 1% in March; excluding excise duties, the twelve-month rise in March was 0.3%. Table 5.A shows that output prices excluding excise duties have been falling since October.

### Pricing in manufacturing

Unit costs in the manufacturing sector weakened in the second half of 1996 and in early 1997 (see Table 5.B). Unit labour costs slowed in early 1997 as manufacturing employment was flat while output increased. And most other input costs continued to fall. But output prices barely rose over the six months to February, implying that manufacturers' margins did not widen much over that period. In contrast, margins widened rapidly in the mid 1980s, when cost conditions were similar. This sits oddly with the similar rates of capacity utilisation currently reported in the CBI Quarterly Industrial Trends Survey compared with those in the mid 1980s. That may simply reflect changes in the way firms have responded to the survey, or that firms may have become more flexible at using existing capacity to increase output.<sup>(1)</sup> Alternatively, the change in monetary policy regime after 1992 may mean that manufacturers expect a lower level of general inflation and have adjusted their pricing behaviour accordingly.

## 5.5 Costs and prices in retailing

Annual retail goods price inflation was unchanged in the fourth quarter of 1996. But estimates of retail sector input costs suggest that their annual rate of change fell in

(1) Sentence, A and Emerson, R, *Manufacturing Capacity and Investment: Is There a Constraint?*, 1995.

the fourth quarter of 1996 (as it had done in the first three quarters). This was driven largely by falls in the prices of physical inputs—which make up about three quarters of retailers' costs—caused in turn by the weakening of domestic output prices and falls in import prices in Q4.

The divergence between costs and prices implies that retailers' margins rose again in the fourth quarter of 1996. And the continued weakness of manufacturers' output prices in the first quarter of 1997, together with the possibility of more falls in import prices, suggests that retailers' costs have fallen since. Rather than cut retail goods prices, retailers will probably exploit the strength of nominal demand to widen margins further in the medium term. But some of that widening may be reversed if costs rise again.

## 5.6

## Summary

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The contrast in costs and prices between the manufacturing and service sectors has become more apparent. Manufacturers have been particularly affected by the continued appreciation of sterling. But rapid growth in the service sector continues to put upward pressure on costs and prices.

## 6.1

## The economic news

Twelve-month RPIX inflation fell to 2.7% in March, down from 3.3% at the end of last year. The fall partly reflected the short-run impact of sterling's appreciation, particularly on goods prices, which are more exchange rate sensitive than services prices. The influence from the exchange rate to retail prices depends on the extent to which the exchange rate movement is expected to persist. The speed with which exchange rate changes pass through to retail prices is affected by the extent, and nature, of contractual arrangements between exporters and importers. So far the pass-through from the appreciation of sterling to retail prices is less than might have been expected on the basis of earlier experience.

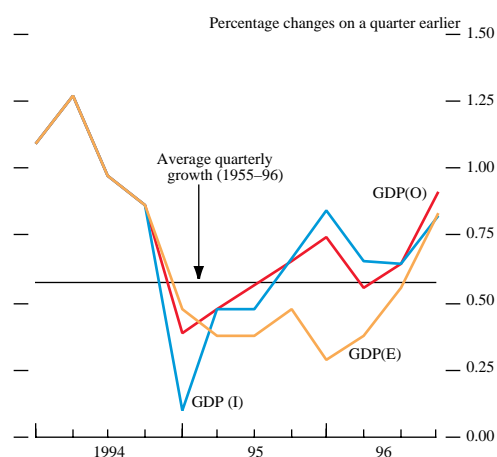
CIPS Surveys suggest that cost pressures are stronger in services than in manufacturing and have been increasing since the services survey began in July 1996.

Manufacturing accounts for less than a quarter of total output, while services account for just under two thirds. Taking manufacturing and services together, it appears that overall cost pressures have been increasing. A similar pattern can be seen in the rate of increase of manufacturing and service sector output prices.

The outlook for inflation in two years or so depends more fundamentally on the growth of broad money and nominal demand in relation to the supply capacity of the economy. Broad money has accelerated since the *February Report*. In the 18 months to January, the annual rate of growth of M4 and M4 lending was generally between 8% and 10%. In February and March, M4 growth was over 11%. Monetary growth is even less likely to be consistent with the inflation target than at the time of the *February Report*.

Final domestic demand (which excludes stockbuilding) accelerated sharply during 1996, to its fastest growth rate since 1989. Private consumption, which grew by 4% during 1996, was the main driving force. After a stock adjustment in the first half of the year, output growth picked up to an annualised rate of around 4% by the beginning of 1997.

**Chart 6.1**  
**Growth in three measures of real GDP**



As yet, there are only limited signs in the statistics of an effect from sterling's appreciation. Net exports increased in the fourth quarter of 1996. And the monthly trade statistics show no sign of a marked impact on export or import volumes either, though there is survey evidence of weaker export orders.

The UK economy has entered its sixth year of expansion, with growth in the output measure of GDP above trend and rising. The growth rates of the expenditure and output measures of GDP have diverged significantly (see Chart 6.1). By the fourth quarter of 1996, the expenditure measure was some 1.2% below the output measure. This difference makes it difficult to interpret the data. The Bank continues to place more weight on the output measure of GDP, which has been less prone to revisions in the past.

The labour market has tightened further and faster since the *February Report*. The Labour Force Survey recorded a large fall in unemployment and a large rise in employment in the winter quarter. Other indicators, such as vacancies and reports of skill shortages, strongly suggest that labour demand is increasing. Underlying earnings growth rose to 5% in February, influenced by larger bonuses and profit-related pay than last year. Even after allowing for the temporary effect of bonuses, the rate of earnings growth seems barely consistent with the inflation target over the medium term.

## 6.2 The further appreciation of sterling

Sterling's effective exchange rate appreciated by 17½% between the trough at the beginning of August 1996 and 8 May, including a 1½% rise since 7 February, when the data for the *February Report* were finalised. Sterling has been little changed against the dollar since February, but has appreciated against other European currencies. The recent rise in sterling coincides with a rise in the dollar against the yen and Deutsche Mark. This suggests that overseas, as well as UK, news has been important. So what are the possible sources of the exchange rate appreciation since February?

The *February Report* identified six factors that could have contributed to the rise in sterling: expected monetary and fiscal policy in the United Kingdom and overseas, the oil price rise, higher productivity in tradable goods and services industries, increased demand for UK output of goods and services, and changes in portfolios.



Changes in current and expected future monetary policy can help to explain the appreciation of sterling since February. The profile of current and expected future UK interest rates has—over the next two years—shifted up further. There were also upward shifts in the yield curves of the major six overseas economies. Taken together, these movements in interest rates since February suggest expectations of a moderate temporary monetary tightening in the United Kingdom relative to overseas economies, and are consistent with an appreciation of sterling—as in the period from August to February, when there was an upward shift in the UK interest rate profile and a downward shift in the overseas profile.

Significantly more tightening is now expected in the United States than in February, but there has been relatively little change in German and French interest rate expectations. The additional tightening expected in the United States followed the increase in the federal funds rate in March, which marked a turning point in interest rates and was the first rise in rates since February 1995. These changes in interest rates are consistent with some strengthening of the dollar.

The Bank's inflation projections are based on the assumption of unchanged nominal UK interest rates. If the rise in UK short-term interest rates which the market expects did not materialise, as that assumption implies, then some of the recent exchange rate appreciation would be reversed. But in the short term the higher exchange rate would dampen demand for UK exports, leading to lower output and a direct downward effect on the price level.

Expected changes in fiscal policy, too, can lead to changes in exchange rates. Reductions in planned fiscal deficits abroad may lower interest rates there. This influence, looked at in isolation, may point to weaker exchange rates in those countries, which would tend to strengthen the contribution of their net exports to output. A rise in net exports would begin to offset the effect of the fiscal tightening on output, and push interest rates back towards their initial level. The initial fall in activity could lead to a temporary fall in inflation. If the fiscal consolidation was large enough to affect the level of global saving and investment significantly, the level of world real interest rates could be permanently reduced. There would be an adverse effect on UK net exports from an overseas fiscal contraction.

**Table 6.A**  
Market forecasts for Government deficits in 1997 as a percentage of GDP

	Date of forecast:					
	1996				1997	
	H1	Aug.	Oct.	Dec.	Feb.	Apr.
Canada	2.0	2.0	1.7	1.6	1.3	1.3
France	3.7	3.6	3.4	3.4	3.3	3.3
Germany	3.1	3.2	3.3	3.2	3.2	3.2
Italy	5.4	4.8	4.1	4.1	3.9	3.6
Japan	3.4	3.1	2.6	2.1	2.8	2.3
United States	1.8	1.7	1.7	1.5	1.4	1.4
M6 (a)	2.8	2.6	2.5	2.2	2.3	2.2
United Kingdom	2.7	3.1	3.1	2.7	2.7	2.4

Source: Consensus Economics.

(a) GDP weighted average of G7 except the United Kingdom. Mean of around 30 private sector forecasts published monthly by Consensus Economics.

Is there evidence of changes in market expectations about prospective fiscal deficits? Consensus Economics provide estimates of outside forecasters' projections for the major six overseas economies. Table 6.A suggests the aggregate expected deficit as a share of GDP for the major six overseas economies has generally fallen since the first half of 1996. But the Consensus estimate of the UK deficit was broadly unchanged between the first and second half of the year. The pattern of exchange rate changes that one might expect to be generated by tighter expected fiscal policy across the G7 is consistent with sterling's rise against the US dollar and the Japanese yen, but does not help to explain the rise against the Deutsche Mark.

Taken together, changes in expected domestic and overseas monetary and fiscal policies can account for perhaps around a half of the rise in sterling since February—a little more than the weight attached to them in the discussion of sterling's appreciation in the February *Report*. Looking at the period August to May as a whole, those factors account for perhaps a third of the appreciation. So monetary and fiscal influences are insufficient to explain all of the rise in sterling, and hence the other factors discussed in February may have played a role.

In January 1997, the price of oil in dollars was 20% higher than in July 1996. That was thought to have made a major contribution to the rise in sterling at the time of the February *Inflation Report*. But the oil price has fallen significantly since then. And taking the period as a whole, the oil price cannot account for much of the appreciation of sterling.

An improvement in productivity in those industries producing tradable goods or services would lead to an exchange rate appreciation and a rise in the price of domestic non-tradables relative to tradables. As in February, there is little hard evidence of relative productivity improvements, so not much significance has been attached to this possible explanation.

The rise in net exports in Q4, coupled with the strength of the monthly trade figures at the start of 1997, is consistent with an underlying increase in demand for UK tradable goods and services, perhaps reflecting a perception that their quality has improved. Table 6.B shows that private sector forecasts of the UK current account for 1997 have continued to be revised upward since the February *Report*. This factor has probably

**Table 6.B**  
Market forecasts for the UK current account in 1997 and 1998<sup>(a)</sup>

	Date of forecast:					
	1996		1997			
	H1	H2	Jan.	Feb.	Mar.	Apr.
1997	-7.6	-6.7	-5.3	-5.2	-5.4	-4.9
1998			-8.1	-8.0	-8.7	-8.4

Source: Consensus Economics.

(a) Mean of around 30 private sector forecasts published monthly by Consensus Economics.

continued to explain part of the appreciation of sterling, which will simply offset the rise in demand for UK tradable goods and services which caused it: the overall effect on demand will be neutral.

Many explanations of sterling's strength against the currencies of other EU Member States have been linked to EMU, and, in particular, to concerns about likely fiscal and monetary policies in the euro area. These expectations are reflected in yield curves which have been discussed above, and should not be double counted. But the portfolio shift away from currencies of countries most likely to participate in EMU may also have reflected higher risk premia because of the uncertainties involved. Such a portfolio shift would lead to an appreciation of sterling against those currencies, which would persist while portfolios were being adjusted. During that time it would dampen demand for UK produced tradable goods and services.

In the absence of other clear explanations, it seems likely that part of the recent appreciation of sterling was purely erratic. Either sterling has appreciated to an erratically high level, or it had earlier depreciated to an erratically low level. In the former case, the appreciation could be reversed more quickly than current interest differentials indicate.

Taken together, these factors imply a smaller adverse effect on net exports and output in the medium term than at the time of the *February Report*. That is because a greater proportion of the exchange rate appreciation is expected to be reversed, given the greater weight attached to temporary monetary tightening. A significant short-term impact on import prices and RPIX inflation is still expected—though this should not affect the profile for inflation two years ahead.

### **6.3 The Bank's medium-term projection**

The Bank's projections are based on the assumption that official interest rates will remain unchanged at 6<sup>1</sup>/<sub>4</sub>% over the next two years. The exchange rate is assumed to move in line with the differential between UK interest rates and overseas interest rates. Real public spending and effective tax rates are assumed to follow the paths set out in the November Budget statement. No allowance is made for any possible future Budget changes.

Consumption is expected to continue growing at well above its average long-run rate, because of the improvement in the terms of trade, and the prospects for

employment, disposable income and wealth. The estimated value of payouts from the conversion of building societies and other mutual institutions has increased. The Bank's central projection is based on the assumption that only the annuity value of those windfall gains will be spent, with the risks biased towards the upside.

There are signs that the fall in the ratio of investment to GDP has come to an end. The incentives for business investment remain strong, and some increase in the ratio is probable, although it is likely to remain volatile from quarter to quarter. Rising house prices suggest that moderate growth in residential investment will continue.

Private consumption and investment are thus likely to continue contributing to demand growth. The long-run decline in the stock-to-sales ratio seems likely to resume in an environment of strong growth in final demand. Public consumption and public investment were projected in the November Budget to grow more slowly than other components of demand.

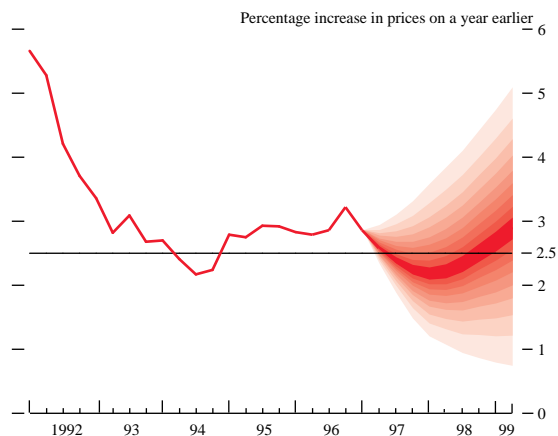
As yet there are few signs of the exchange rate appreciation on net exports, but there is survey evidence of a fall in export orders. The effects on export and import volumes are likely to become visible in the remainder of the year. Their scale is highly uncertain, and notwithstanding the surprising strength of net exports in 1996 and early 1997 the risks are mainly on the downside.

Output growth is well above trend, and that is likely to continue over the next couple of years, with the main contribution coming from the service sector. But manufacturing—though more sensitive to the exchange rate appreciation—is still likely to grow. The Bank's judgment is that the downside risks from net exports are more than counterbalanced by the upside risks to domestic demand.

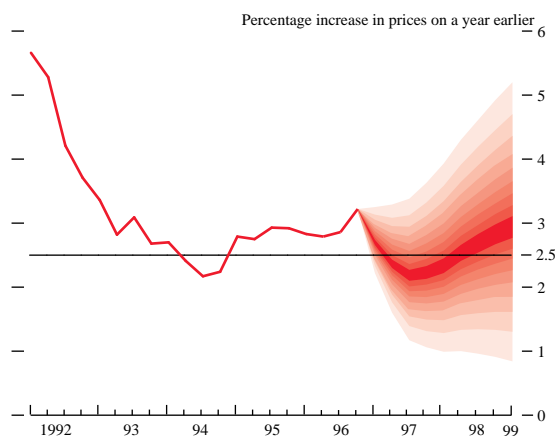
The Bank's medium-term projection of the twelve-month inflation rate is shown in Chart 6.2, next to February's projection, shown in Chart 6.3. The Bank's central projection is of twelve-month RPIX inflation continuing to fall through most of 1997, reaching a trough around the end of the year, and rising from then onwards.

That central projection is similar to the one presented in the November and February *Reports*. The short-term profile continues to be heavily influenced by the rise of sterling since August 1996. Any remaining effect on the

**Chart 6.2**  
Current RPIX inflation projection



**Chart 6.3**  
RPIX inflation projection in February



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.

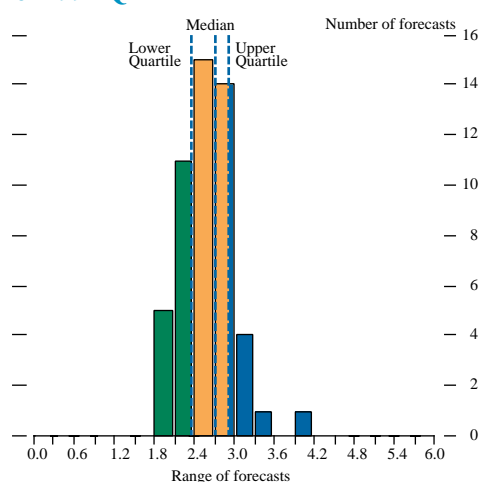
price level is expected to appear quite quickly, but will affect the twelve-month rate of inflation for a year. It therefore seems likely that inflation will fall below  $2\frac{1}{2}\%$  over the next few months. But as the growth rate of money and nominal demand become the dominant influences, the rate of inflation will begin to rise.

The central projection for inflation two years ahead—the horizon most relevant for monetary policy—is about the same as at the time of the *February Report*. In part, this reflects the fact that inflation is expected to be rising two years ahead and that the forecast horizon has been pushed out an additional quarter. It also partly reflects a slightly stronger outlook for demand. But these factors have been offset by the  $\frac{1}{4}\%$  rise in interest rates since the *February Report*.

The risks around the central projection are slightly biased towards the upside one year ahead, but are roughly balanced two years ahead. The net upside risk in the first year arises from the risk of stronger domestic demand outweighing the downside risk of weaker external demand. The announcement on 6 May that the Bank was to be given operational responsibility for setting

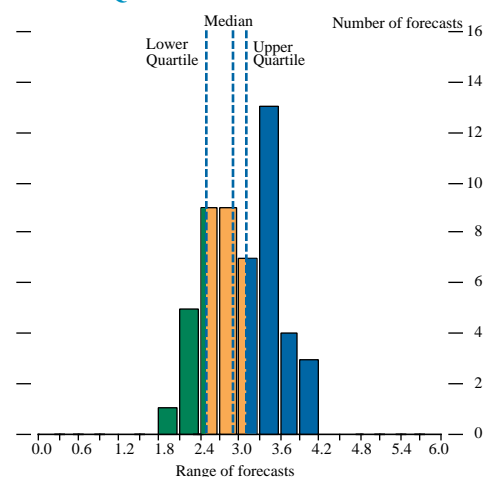


**Chart 6.4**  
Distribution of RPIX inflation forecasts for 1997 Q4



Source: Forecasts of 51 outside forecasters as at April 1997.

**Chart 6.5**  
Distribution of RPIX inflation forecasts for 1998 Q4



Source: Forecasts of 51 outside forecasters as at April 1997.

**Table 6.C**  
Expected RPIX inflation<sup>(a)</sup>

Range:	Less than 1.0%	1.0% to 2.5%	2.5% to 4.0%	4.0% to 5.5%	More than 5.5%
1997 Q4	4	41	46	7	2
1998 Q4	4	25	50	17	5

(a) 34 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 mean of the responses for each range. For example on average, forecasters assign a probability of 4 to inflation being less than 1% in 1998 Q4. Rows may not sum to 100, because of rounding.

interest rates may have led to a fall in inflation expectations (see the box on page 16). A fall in inflation expectations would, if it influenced wage and price-setting behaviour, imply that a lower level of interest rates would be needed to meet the inflation target in the medium term. But it is too early to tell whether any such fall in inflation expectations will persist, and so, for the purposes of the Bank's projection, it is treated as a downside risk to inflation. That leaves the risks around the central projection for inflation two years ahead roughly balanced. The central case assumes that when the three measures of GDP are reconciled, the output measure will prove the most reliable. The possibility of upward revisions to the output measure is treated as a risk to the central projection and reinforces the upside demand risk from the build-up of money holdings.

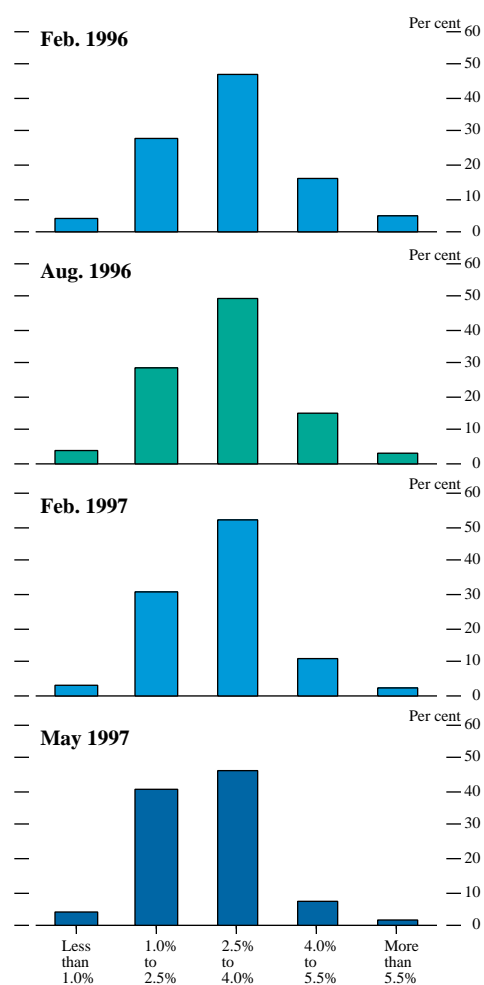
## 6.4 Outside forecasters

Chart 6.4 shows that the median projection for twelve-month RPIX inflation in 1997 Q4, among the 51 economic forecasts surveyed by the Bank, was 2.7% in April 1997. That is a little lower than in January. In this *Report*, in contrast to February's, the distribution has a single mode. Chart 6.5 shows that there continues to be a bimodal distribution of forecasts of inflation in 1998 Q4. The median rate of 2.9% is above the inflation target. The Bank's central projection is close to the median.

Thirty-four outside forecasters have provided the Bank with their assessment of the probabilities they attach to various possible inflation outcomes (see Table 6.C). On average, the probability of inflation being 2½% or less in 1997 Q4 is judged to be 45% now, compared with 34% three months ago. This higher probability may partly reflect short-run effects following the continued rise of sterling. Chart 6.6 shows how the probability distribution has evolved since the Bank first started collecting these data in February 1996. The distribution started to shift to the left from August 1996 onwards, as sterling appreciated. The distribution has also become more concentrated, as would be expected, as projections get closer to 1997 Q4. Looking further ahead, the latest Bank survey shows that the probability of inflation being 2½% or less in 1998 Q4 was judged to be 29%, little changed since February. There was a 22% probability attached to inflation of 4% or more.

The Merrill Lynch-Gallup and Barclays Basix Surveys broadly agreed with the outside forecasts discussed

**Chart 6.6**  
Expected RPIX inflation for 1997 Q4



**Table 6.D**  
Barclays Basix survey of inflation expectations

Percentage increases in prices

**Twelve-month RPI inflation one year ahead**

	Dec. 1996	Mar. 1997
General public	3.9	4.0
Business economists	3.2	3.0
Finance directors	3.3	3.2
Investment analysts	3.5	3.1
Academic economists	3.1	3.0
Trade unions	3.7	3.3

**Twelve-month RPI inflation two years ahead**

	Dec. 1996	Mar. 1997
General public	4.8	4.7
Business economists	3.5	3.4
Finance directors	4.0	4.0
Investment analysts	4.3	3.8
Academic economists	3.6	3.4
Trade unions	4.8	4.7

Source: Barclays Bank.

above, and show little marked change since February. Inflation was expected to rise between the end of this year and the end of next (see Tables 6.D and 6.E).

**6.5**

**Conclusions**

The UK economy has entered its sixth year of expansion. Since the inflation target was adopted at the end of 1992, total output has grown at an average annual rate of almost 3% and RPIX inflation has fallen from 4% to below 3%. That is a good base from which to build, even though inflation has been consistently above the target of 2½% or less over the past two years.

Output growth in the United Kingdom is now above trend and rising. Inflation is close to the target and falling. That happy combination is, however, unsustainable. In the short run, the sharp appreciation of sterling since last August—17½% on the effective index—will lower retail prices, and so keep inflation low through 1997 and into early 1998. At some point, above-trend output growth will lead to rising inflation.

Over the past year the main stimulus to growth has been final domestic demand, which rose by over 3% during 1996, compared with less than 1% during 1995. Consumption was the driving force. It rose by about 4% during 1996. Demand and output growth continued at well above trend in the first quarter of 1997. Real GDP rose by around 1% in the first quarter, compared with 0.8% in the fourth quarter of last year.

Those growth rates of aggregate demand and output followed an acceleration of broad money over the past two years. During that period the growth rate of broad money rose from around 5% to about 10% in nominal terms, and from 2% to 6% in real terms. Since the February *Report* broad money has accelerated further. Its twelve-month nominal growth rate is now around 11%. That will sustain continuing rapid growth of domestic demand, and consumption, in particular, is likely to grow at well above trend for some time.

The appreciation of sterling means that output is likely to grow less fast than domestic demand. Nevertheless, domestic demand growth is sufficiently strong—at around 4% a year—that output growth is likely to remain above trend. That will lead to rising pressure on production resources, including labour, and, in due course, rising retail price inflation. Unless the rate of domestic demand expansion is moderated soon, there

**Table 6.E**  
**Merrill Lynch - Gallup Survey of UK fund managers' inflation expectations**

Percentage increases in prices

Twelve-month RPI inflation in	Month of survey				
	1996 Dec.	1997 Jan.	Feb.	Mar.	Apr.
December-1996	2.8				
December-1997	3.4	3.3	3.2	3.1	3.2
December-1998		3.5	3.5	3.4	3.5

Note: The RPI outturn for end-1996 was 2.5%.

Source: Merrill Lynch-Gallup.

will be a real threat to the inflation target over the medium term.

At the same time, the appreciation of sterling has created a policy dilemma. It is affecting disproportionately those sectors of the economy most exposed to international competition, notably manufacturing. There is an increasing imbalance between the growth rate of manufacturing, which accounts for less than a quarter of total output, and of services, which account for just under two thirds. Higher interest rates would dampen domestic demand, but if they led to a further appreciation of sterling, would worsen the imbalance.

The short-run outlook for inflation is favourable. That is not surprising. A rise in sterling should lead to a temporary fall in inflation, so that a monetary policy which was on track to hit the inflation target two years ahead would imply an inflation rate of well below 2½% in the second half of this year. Hitting the target only because of a favourable one-off shock to the price level conceals the need to take action to remain within the target when the first-round effect of the sterling appreciation on the domestic price level has worn off.

More important for the stance of monetary policy now is the prospect two years ahead. Despite the rise in the exchange rate, inflation is more likely than not to be above the target two years or so ahead unless action is taken to slow the pace of expansion. That is why the Bank has argued for several months that a tightening of monetary policy was necessary. The ¼% rise in interest rates earlier this month was an appropriate step in that direction. And the transfer of operational responsibility for setting interest rates to the Bank of England should improve the credibility of monetary policy. The announcement of that change lowered inflation expectations in the longer term by around half a per cent. But the central projection for inflation, and the risks surrounding it, suggests that, on the present evidence, there is still likely to be a need for some further moderate tightening of policy in the months ahead.

## Glossary and other information

### Glossary of selected terms

**RPI inflation:** inflation measured by the retail price 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 that 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 at 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 its likely use for transactions.

**GDP(E):** the expenditure measure of GDP.

**GDP(I):** the income measure of GDP.

**GDP(O):** the output measure of GDP.

**BCC:** British Chambers of Commerce.

**CBI:** Confederation of British Industry.

**CIPS:** Chartered Institute of Purchasing and Supply.

**ERI:** exchange rate index.

**GFK:** Gesellschaft Für Konsum, Great Britain Ltd.

**HICP:** Harmonised indices of consumer prices.

**ICCs:** industrial and commercial companies.

**JSA:** Jobseeker's Allowance.

**LFS:** Labour Force Survey.

**MORI:** Market Opinion Research International.

**OFIs:** other financial institutions.

**PSBR:** Public Sector Borrowing Requirement.

**WIE:** Workforce in Employment.

**Three-month annualised:** the percentage change in a series over three months, 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 an ONS error in under-recording RPI and RPIX inflation between February and May 1995.

n.a.= not available.

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

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This *Report* is available at:

<http://www.bankofengland.co.uk/>