



# Inflation Report

**November 2005**

Bank of England



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In order to maintain price stability, the Government has set the Bank's Monetary Policy Committee (MPC) a target for the annual inflation rate of the Consumer Prices Index of 2%. Subject to that, the MPC is also required to support the Government's objective of maintaining high and stable growth and employment.

The *Inflation Report* is produced quarterly by Bank staff under the guidance of the members of the Monetary Policy Committee. It serves two purposes. First, its preparation provides a comprehensive and forward-looking framework for discussion among MPC members as an aid to our decision making. Second, its publication allows us to share our thinking and explain the reasons for our decisions to those whom they affect.

Although not every member will agree with every assumption on which our projections are based, the fan charts represent the MPC's best collective judgement about the most likely paths for inflation and output, and the uncertainties surrounding those central projections.

This *Report* has been prepared and published by the Bank of England in accordance with section 18 of the Bank of England Act 1998.

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The Overview of this *Inflation Report* is available on the Bank's website at [www.bankofengland.co.uk/publications/inflationreport/infrep.htm](http://www.bankofengland.co.uk/publications/inflationreport/infrep.htm).

The entire *Report* is available in PDF at [www.bankofengland.co.uk/publications/inflationreport/2005.htm](http://www.bankofengland.co.uk/publications/inflationreport/2005.htm).

PowerPoint™ versions of the charts in this *Report* and the data underlying most of the charts are provided at [www.bankofengland.co.uk/publications/inflationreport/2005.htm](http://www.bankofengland.co.uk/publications/inflationreport/2005.htm).

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# Overview

*The softness in UK GDP growth has persisted. Consumer spending growth remained relatively weak, though business investment picked up. The world economy continued to expand at a solid pace and net trade boosted UK output growth. In the Committee's central projection, under the assumption that official interest rates follow a path implied by market yields, GDP growth gradually regains momentum as domestic spending recovers.*

*The labour market loosened slightly and pay pressures remained subdued. Reflecting, in part, the impact of past increases in energy prices, CPI inflation rose to 2.5% in September. In the central projection, inflation remains above the 2% target in the near term and then dips below it as the contribution of higher energy prices diminishes. Inflation then moves back up to target as growth revives. The risks to growth and inflation are broadly balanced.*

## Domestic demand

Household consumption growth has fallen sharply since the first half of 2004, reflecting weaker growth in real post-tax labour income, past increases in interest rates, and slowing house price inflation. Spending accelerated a little in 2005 Q2, though growth remained weak by the standard of recent years. Available indicators point to a similarly subdued pace of expansion in the third quarter. Underpinned by a gentle recovery in labour income growth and the housing market, the Committee's central view is that a modest pickup in the growth rate of consumers' expenditure is in prospect.

Compared with past experience, capital expenditure by businesses has been relatively subdued given the path of output, though it picked up in Q2 according to the latest estimates. The financial position of companies appears to be healthy, but investment intentions have faltered during the past year, perhaps reflecting easing pressures on capacity, increased uncertainty about the outlook and the impact of higher oil prices. The Committee nevertheless expects continued moderate growth in business investment.

Government consumption grew in line with GDP in the second quarter. Strong growth in public expenditure has helped to sustain demand growth in recent years, and public consumption is expected to grow briskly over the next few quarters.

## External demand and net trade

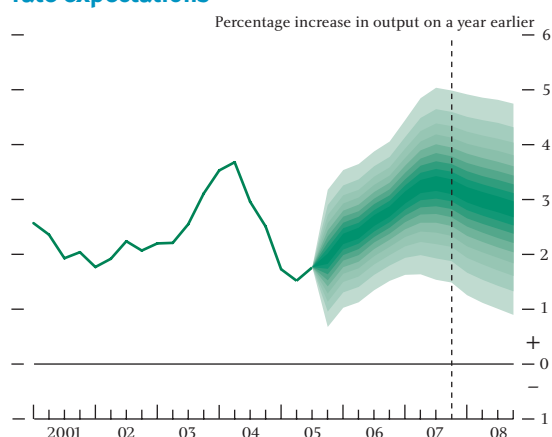
The world economy continued to expand at a solid pace. GDP growth was subdued in the euro area, though business surveys suggest that a modest pickup is in prospect. Notwithstanding the impact of hurricanes and higher fuel prices, output growth in the United States remained brisk. And the vigorous expansion in the major Asian economies continued. The Committee believes that world trade growth will remain close to its long-term average.

Given the expansion in world trade, UK export performance has been somewhat disappointing in recent years. Exports grew unusually rapidly in the second quarter, though that is likely to prove largely erratic. Looking forward, the Committee expects the market share of UK exporters to continue to decline, but at a less rapid rate than in recent years. Import growth slowed in H1, broadly in line with the softening in domestic demand. Although the unusually strong boost provided by net exports to activity in Q2 is likely to unwind in the near term, the contribution of net trade to GDP growth is expected to strengthen thereafter.

## The outlook for GDP growth

GDP is provisionally estimated by the ONS to have grown by 0.4% in Q3. Services growth is reported to have remained below its historical trend, as firm growth in business services and finance failed to offset the weakness in distribution, hotels and catering. A modest revival in manufacturing output was accompanied by a sharp fall in energy extraction. Since the *August Report*, there have also been revisions to the back data for GDP, which suggest that the economy slowed more sharply over the preceding year than previously estimated. Those revisions were concentrated in services, increasing the divergence with business surveys, which paint a more buoyant picture. The MPC continues to place some weight on the latter and there is considerable uncertainty about the extent to which growth has slowed.

**Chart 1**  
**Current GDP projection based on market interest rate expectations**



The fan chart depicts the probability of various outcomes for GDP growth in the future. If economic circumstances identical to today's were to prevail on 100 occasions, the MPC's best collective judgement is that GDP growth over the subsequent three years would lie within the darkest central band on only 10 of those occasions. The fan chart is constructed so that outturns of GDP growth are also expected to lie within each pair of the lighter green areas on 10 occasions. Consequently, GDP growth is expected to lie somewhere within the entire fan chart on 90 out of 100 occasions. The bands widen as the time horizon is extended, indicating the increasing uncertainty about outcomes. See the box on pages 48–49 of the May 2002 *Inflation Report* for a fuller description of the fan chart and what it represents. The dashed line is drawn at the two-year point.

Chart 1 shows the MPC's assessment of the outlook for four-quarter GDP growth under the assumption that official interest rates follow a path implied by market yields. In the central projection, output growth gradually regains momentum, reflecting a gentle acceleration in household consumption, strong government spending, a stockbuilding revival and a modest improvement in net trade. Growth then slows a little, as the impetus from public spending wanes and consumption growth eases. The profile in the first part of the projection is a little weaker than in August.

## Costs and prices

There have been substantial upward revisions to official estimates of net inward migration and thus to the UK working population. However, the Committee had already taken note of reports from the Bank's regional Agents and other information identifying the increased use of migrant workers by businesses. As a result, the new estimates have not led the MPC to revise materially its assessment of past or current levels of potential supply.

Despite the slowing in activity, employment growth remained reasonably robust and productivity consequently stagnated. Although that could indicate measurement errors in either the employment or output data, it is likely that some employers may have chosen to retain labour rather than lay workers off. Claimant-count unemployment continued to edge up and reports from the Bank's regional Agents also point to a gentle softening in the labour market. Against that background, private sector regular pay growth remained subdued.

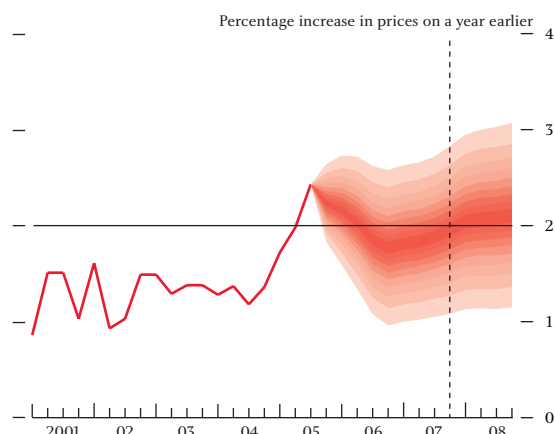
Despite substantial movements around the time of Hurricane Katrina, the price of oil was broadly unchanged from the time of the *August Report*. The doubling in spot prices since early 2004 coincided with rapid expansion in the global demand for oil, and the corresponding rise in futures prices suggests that high oil prices are expected to persist. Higher energy prices have contributed to increases in producer and, more recently, consumer prices across the major industrialised economies, though the pass-through has been weaker than in previous episodes when oil prices rose sharply. Absent further substantial rises in oil prices, the Committee expects the rate of increase of the prices of internationally traded goods and services to ease over the forecast period.

CPI inflation rose to 2.5% in September. The increase in CPI inflation over the past year reflects the increase in the price of energy, the pressure of demand on supply in the first half of 2004, and the unwinding of one-off factors. But there is considerable uncertainty about the relative importance of these influences.

## The outlook for inflation

The prospects for inflation depend crucially on the response of wages to the pickup in inflation. Higher energy prices raise consumer prices and imply a corresponding reduction in the purchasing power of wages. If this leads to a compensating rise in pay, then inflation and unemployment would probably increase. Moreover, if inflation expectations were also to move higher, that would exacerbate the situation. The Committee believes that changes to the structure of labour and product

**Chart 2**  
**Current CPI inflation projection based**  
**on market interest rate expectations**



The fan chart depicts the probability of various outcomes for CPI inflation in the future. If economic circumstances identical to today's were to prevail on 100 occasions, the MPC's best collective judgement is that inflation over the subsequent three years would lie within the darkest central band on only 10 of those occasions. The fan charts are constructed so that outturns of inflation are also expected to lie within each pair of the lighter red areas on 10 occasions. Consequently, inflation is expected to lie somewhere within the entire fan chart on 90 out of 100 occasions. The bands widen as the time horizon is extended, indicating the increasing uncertainty about outcomes. See the box on pages 48–49 of the May 2002 *Inflation Report* for a fuller description of the fan chart and what it represents. The dashed line is drawn at the two-year point.

markets have made such an outcome less likely than in the past. So far wage growth has remained broadly stable and there is little evidence that inflation expectations have risen.

Chart 2 shows the Committee's assessment of the outlook for CPI inflation, also assuming that official interest rates move in line with market yields. Under the central projection, inflation remains above the 2% target in the near term. It then dips below the target, as the consequences of past oil price increases drop out of the annual comparison and the reduced pressure of demand on supply in the first part of the projection bears down on inflation. But as output recovers momentum and spare capacity is eroded, inflation moves back up to meet the target around the two-year point. The profile is slightly weaker than in August.

As usual there are substantial risks surrounding the central projections. These include: the prospects for demand; the impact of higher energy prices and migration on the prospects for supply; the outlook for energy prices and their impact on inflation expectations; and the sources of the recent pickup in inflation. There is a range of views among members, but the Committee judges that, relative to the central projection, the overall risks to growth and inflation are broadly balanced.

## The policy decision

At its November meeting, the Committee noted that output growth strengthened gradually under the central projection, while inflation was close to the target two years or so ahead. The Committee also noted the considerable uncertainty about the impact of higher energy prices on inflation, both in the recent past and in the immediate future. In the light of this outlook, and bearing in mind the balance of risks, the Committee judged that no change in the repo rate was necessary to keep inflation on track to meet the target in the medium term.

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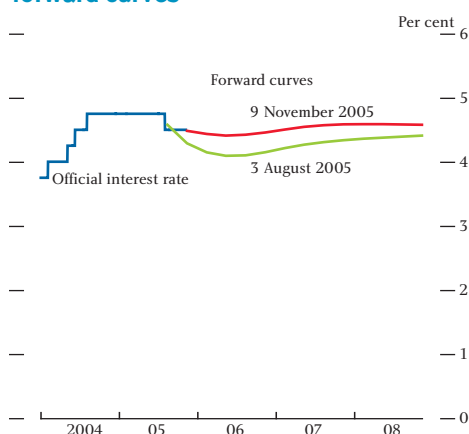


# Money and asset prices

1

*The MPC has left official interest rates unchanged since the August Report. But short-term market interest rates have risen, equity prices have edged up and sterling has appreciated. A range of indicators points to a moderate recovery in the housing market. Growth of notes and coin in circulation slowed, as did lending to households. The number of indebted households in difficulty rose, albeit from a very low level. Corporate finances appeared healthy.*

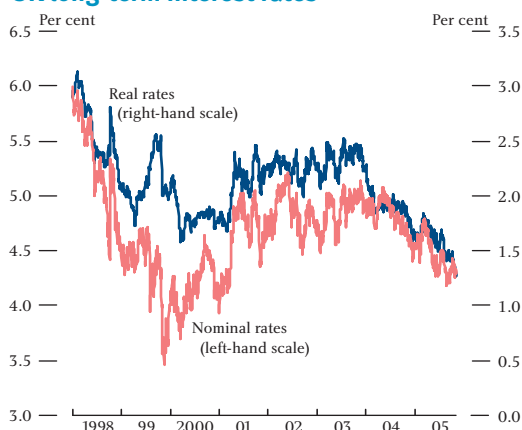
**Chart 1.1**  
**Bank of England repo rate and one-day forward curves<sup>(a)</sup>**



Sources: Bank of England and Bloomberg.

(a) Forward rates are interest rates expected to prevail in a future period. They are derived from instruments that settle on the London interbank offered rate (Libor). That includes market rates on short sterling futures, swaps, interbank loans and forward rate agreements. The forward curves shown in the chart are fifteen-day averages of one-day forward rates. In previous Reports this chart has been based on two-week forward rates. The move to presenting one-day forward rates follows the review of the Bank's operations in the sterling money markets; see the box on page 304 of the Autumn 2005 *Bank of England Quarterly Bulletin* for more details. The curves have been adjusted for credit risk.

**Chart 1.2**  
**UK long-term interest rates<sup>(a)</sup>**



Sources: Bank of England and Bloomberg.

(a) Defined here as ten-year instantaneous forward rates.

## 1.1 Asset prices

### Short-term interest rates

The Monetary Policy Committee (MPC) has left official interest rates unchanged during the past three months. A summary of the MPC's policy decisions since the *August Report* is provided in the box on page 4.

Forward rates embody market participants' expectations of future policy decisions. Chart 1.1 suggests that expectations of official rates rose between the August and November Reports. The forward rates that prevailed in the run-up to the MPC's meeting on 9 November suggest that market participants expected official interest rates to remain broadly unchanged over the next few years.

### Long-term interest rates

Long-term nominal forward rates remained low by historical standards. These rates reflect market participants' expectations of inflation and real rates of interest. As Chart 1.2 illustrates, the decline in long-term nominal forward rates can be predominantly accounted for by a decline in real rates, rather than any significant change in inflation expectations.

Movements in long-term real rates will typically reflect shifts in the global balance between desired savings and planned investment.<sup>(1)</sup> One factor which could have affected that balance is the increase in the price of oil over the recent past.

An increase in the price of oil creates a transfer of income from oil-importing countries, such as the United States, to oil-exporting countries, such as Saudi Arabia. According to

(1) See the box on pages 6–7 of the May 2005 *Report* for a discussion of a range of factors which could have affected that balance.

## Monetary policy since the August Report<sup>(1)</sup>

The MPC's central projection in the August *Report*, under the assumption that official interest rates followed a path implied by market yields, was for GDP growth to remain subdued in the near term, before picking up. CPI inflation was projected to move above the 2% target and then fall back, before rising above the target once more.

At the time of the Committee's meeting on 7–8 September, short-term market rates had declined, sterling had appreciated and equity prices had increased a little since the previous meeting. GDP growth in the United Kingdom had been below trend for four quarters in a row, and consumption growth had been weaker than expected. Data releases and survey indicators suggested that GDP growth in Q3 was likely to be similar to that in Q2.

The continued rise in the oil price presented a dilemma for monetary policy. The key question was how to choose an interest rate path that kept inflation expectations well-anchored. The Committee noted that various measures of inflation expectations (both from surveys and derived from government bonds) had remained well-anchored in recent years. They also noted that, over the past twelve months, whole-economy average earnings growth had not picked up by as much as the rise in CPI inflation, consistent with the gradual easing in the labour market.

If sustained, the recent weakness in UK consumption and business investment and euro-area domestic demand was likely to push down on UK GDP growth, and to deliver a lower inflation outturn than envisaged in the August *Report*. Sterling's appreciation would also push down on inflation. However, inflation outturns had been higher than anticipated over the past year and there remained a risk that oil prices would rise further.

Given these considerations, the Committee voted unanimously to maintain the repo rate at 4.5%.

At the time of the MPC meeting on 5–6 October, there had been little news from financial markets,

and growth in the international economy seemed broadly in line with the August *Report* projections. In the United Kingdom, output growth continued to be subdued. But service sector growth implied by official data was weaker than suggested by business surveys, and was at odds with the relative resilience of employment growth. Consumption remained a little weaker than expected in the August *Report*, but business investment was in line with those projections, and net trade had made a positive contribution to quarterly GDP growth for the second consecutive quarter.

There had been a variety of news about potential supply. On the one hand, the recent large increases in the oil price could adversely affect supply, for example if workers resisted any deterioration in real wage growth: if employment were to be sustained, the real consumption wage would have to rise more slowly than would otherwise have been the case. On the other hand, revisions to population estimates implied that the population aged 16 and over was almost 140,000 higher than official data had originally suggested. The Committee had for some time believed that migration had been higher than suggested by official estimates, so the upward revisions were not surprising.

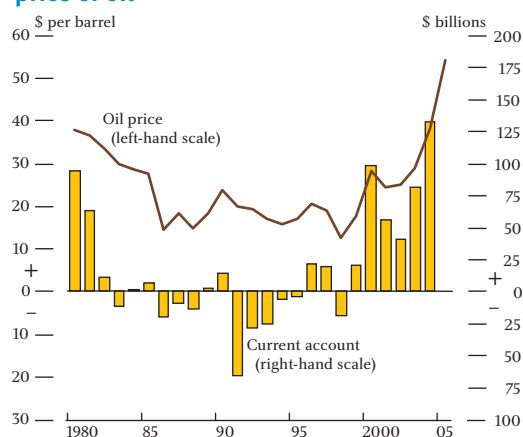
On balance, the short-term prospects for growth and inflation were little changed since the August *Report*, although some members felt that the downside risks to demand had increased. But there had been significant data revisions and news about the supply side of the economy and the November forecast round would provide an opportunity to assess the effect of that news on the overall pressure of demand on supply. At present, there was little sign that the higher oil price was feeding through into either wage settlements or medium-term inflation expectations.

The Committee voted unanimously to maintain the repo rate at 4.5%.

At its meeting on 9–10 November, the Committee also voted to maintain the repo rate at 4.5%.

(1) The *Minutes* of the August, September and October meetings (which set out the full discussion) are reproduced under a separate cover, published alongside this *Report*.

**Chart 1.3**  
**OPEC<sup>(a)</sup> current account balances and the**  
**price of oil<sup>(b)</sup>**



Sources: IMF World Economic Outlook Database September 2005 and Thomson Financial Datastream.

- (a) Excluding Iraq: that is: Algeria, Indonesia, Iran, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, United Arab Emirates and Venezuela.  
 (b) The price of a barrel of Brent crude. Data for the period 1980–2004 are annual averages. The average price of oil in 2005 is approximated by the average dollar price of Brent crude in the year to 9 November.

IMF data, the OPEC countries were already running large current account surpluses in 2004 when oil prices averaged under \$40 (Chart 1.3). The further rise in the oil price since 2004 has added to those surpluses. That suggests that a significant proportion of the additional revenues flowing to the oil exporters are likely to be saved and used to buy financial assets. If the price of oil remains around its current level, and if the oil-exporting countries continue to save a higher share of national income than the oil-importers, that could lead to a persistent shift in the global balance between desired savings and planned investment. That, in turn, could affect long-term real rates of interest around the world.

In addition to the balance between savings and investment, real rates are also affected by investors' risk appetite. Investors may demand an additional return, or risk premium, to compensate them for interest rate uncertainty. So some of the decline in long-term real rates may reflect an increase in risk appetite. If that appetite diminished in the future, then real rates could rise.

## Equities

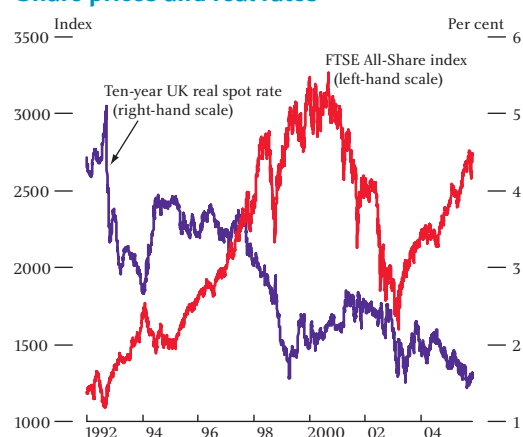
The FTSE All-Share index averaged 2660 in the fifteen working days to 9 November. That was about 1% higher than the corresponding average at the time of the *August Report*, and equity prices have been on an upward trend for most of the past three years. The FTSE All-Share index has increased by almost 15% since the start of 2005, and by more than 70% since the trough in early 2003.

A share is a claim of ownership on part of the future profits of a company. So share prices will tend to rise when investors become more optimistic about the future stream of profits that companies can generate. Corporate profitability has been robust over the recent past, despite the weakness of domestic economic activity (Section 1.2). And financial market participants may expect that, due to globalisation and trade liberalisation, companies in the developed world are increasingly able to tap into a large supply of relatively low-cost labour, potentially raising their return on capital.

Another factor that could explain the rise in equity prices is the fall in long-term real interest rates (Chart 1.4). Given the decline in long rates, investors are likely to place a higher value on the dividends that they expect to receive in the future. And that is likely to have led to an increase in the price of equities.

Another potential explanation for the sustained rally in equity prices is a fall in the risk premium, which is analogous to the premium on long-term bonds and compensates investors for

**Chart 1.4**  
**Share prices and real rates**



Sources: Bank of England and Bloomberg.

**Chart 1.5**  
**The sterling ERI**



**Table 1.A**  
**Housing market indicators<sup>(a)</sup>**

	Average <sup>(b)</sup> since 2000	2005 Q1 <sup>(b)</sup>	Q2 <sup>(b)</sup>	July	Aug.	Sep.	Oct.
Halifax <sup>(c)</sup>	1.0	0.2	-0.2	0.4	1.9	1.1	0.0
Nationwide <sup>(c)</sup>	1.1	0.2	0.3	0.2	-0.2	-0.2	1.3
HBF house prices <sup>(d)(e)</sup>	28	-19	-32	-22	-4	-27	n.a.
RICS house prices <sup>(f)</sup>	17	-37	-43	-33	-25	-21	n.a.
RICS price expectations <sup>(f)</sup>	12	-25	-23	-9	-4	7	n.a.
HBF net reservations <sup>(d)(g)</sup>	-1	-41	-41	-12	1	-9	n.a.
HBF site visits <sup>(d)(g)</sup>	-7	-36	-32	-22	-28	-24	n.a.
RICS sales to stocks ratio <sup>(h)</sup>	0.44	0.29	0.28	0.29	0.30	0.30	n.a.
RICS new buyers enquiries <sup>(e)</sup>	-5	-4	-2	8	19	18	n.a.
Mortgage approvals <sup>(i)</sup>	106	87	96	99	106	107	n.a.

Sources: Bank of England, Halifax, Home Builders Federation (HBF), Nationwide, Royal Institution of Chartered Surveyors (RICS).

- (a) All series are net percentage balances unless otherwise stated.  
(b) These data are averages of the monthly data.  
(c) Percentage changes on a month earlier.  
(d) Seasonally adjusted by Bank staff.  
(e) Compared with the previous month.  
(f) Change during the past three months/expected over the next three months.  
(g) Compared with a year ago.  
(h) Ratio of sales recorded during the past three months relative to the level of stocks on estate agents' books at the end of the month.  
(i) The number of loan approvals for house purchases, in thousands.

uncertainty about equity returns. The size of that premium will depend on the volatility of equity returns and consumption, as well as the degree to which equities and consumption move in tandem. If investors have become increasingly confident that the unusual stability in growth since the early 1990s will persist, then that could have led to a fall in the risk premium on equities.

## Exchange rates

Since the publication of the *August Report*, the sterling effective exchange rate index (ERI) has been as high as 101.7 in early September, and as low as 98.9 in early October. The index averaged 100.3 over the fifteen working days to 9 November, 1.7% higher than in the equivalent period for the *August Report*.

Despite those fluctuations, the index appears relatively stable when judged over a longer time horizon. The sterling ERI has moved in a relatively narrow band over the past eight years (Chart 1.5). Nevertheless, there have been large shifts during the past five years in some of the key bilateral exchange rates that make up the ERI: the pound has appreciated by around 25% against the dollar and depreciated by around 10% against the euro.

## The housing market

There are signs of modest recovery in the housing market. Different indicators record activity or prices at different stages in the house purchase timeline.<sup>(1)</sup> Many of these indicators provide a broadly consistent message of recovery (Table 1.A). The number of loan approvals for house purchases has increased. A measure of market tightness — the ratio of sales to stocks on estate agents' books — has also edged above its level during the first half of the year. And an average of the lenders' monthly data for house prices suggests that the pace of house price inflation may have ticked up recently. These indicators of activity and prices provide only an imperfect guide to the near-term prospects for the housing market. Nevertheless, there does appear to have been a modest recovery in the housing market.

## 1.2 Money, credit and balance sheets

### Monetary aggregates

Notes and coin are predominantly held by households and shops, so movements in this narrow measure of the money supply are likely to be prompted by developments in retail spending. Growth in the quantity of notes and coin in circulation in October fell to its lowest level since December

(1) See page 6 of the November 2004 *Report* for more details.

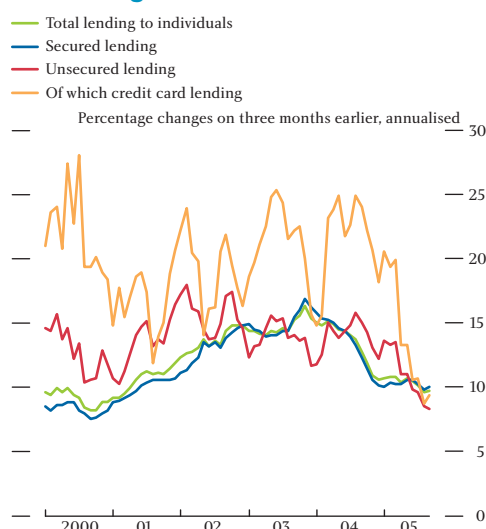
**Table 1.B**  
**Monetary aggregates**

Percentage changes on a year earlier

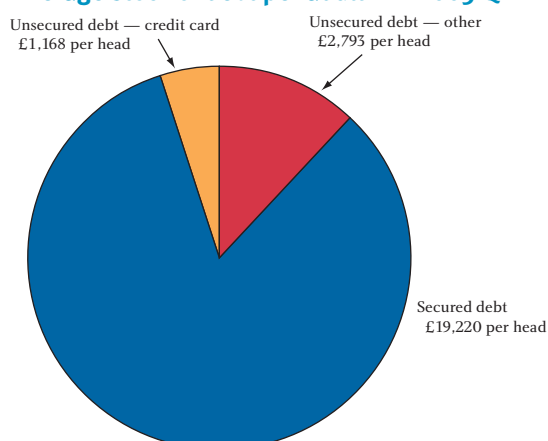
	2004		2005			
	Q3	Q4	Q1	Q2	Q3	Oct.
Notes and coin	5.8	5.7	5.2	3.9	3.8	3.6
M4 <sup>(a)</sup>	9.0	9.0	10.6	10.6	11.2	n.a.

(a) M4 is a broad monetary aggregate. Its principal components are the UK private sector's holdings of sterling notes and coin, and its holdings of sterling deposits (including repos) with UK monetary financial institutions.

**Chart 1.6**  
**Net lending to individuals**



**Chart 1.7**  
**Average stock of debt per adult<sup>(a)</sup> in 2005 Q2**



(a) Defined as the total debt stock divided by the number of people in the adult household population.

1992. By contrast, annual growth in M4, a broader monetary aggregate, has risen since August (Table 1.B). Over the medium to long term, movements in the money supply track developments in spending fairly well. But the short-term relationship between monetary aggregates and spending has been weak, as discussed in previous *Reports*.

## Household borrowing

Growth in unsecured lending to individuals continued to ease (Chart 1.6); growth in credit card lending has fallen particularly sharply during the past year. The slowdown in unsecured lending could reflect a decision by lenders to restrict the supply of credit. That is consistent with reports to the Bank from lenders of a tightening in credit conditions and the rise in write-offs of unsecured debt. But the slowdown could also reflect a fall-off in the demand for credit, perhaps driven by households' concerns over their mounting debts or the higher interest rates charged on some forms of unsecured borrowing (see below).

Growth in secured lending has slowed, consistent with the moderation in housing market activity over the past year. The overwhelming majority of the stock of debt owed by UK households is secured on property via mortgages (Chart 1.7). The number of those mortgages that are in arrears has been rising recently, as has the number of actual repossessions. However, the number of repossessions remained very low by historical standards (Chart 1.8). There has also been an increase in the number of applications for repossession by the lenders. And although the majority of these are unlikely to end in households actually losing their home, it may presage a pickup in repossessions.

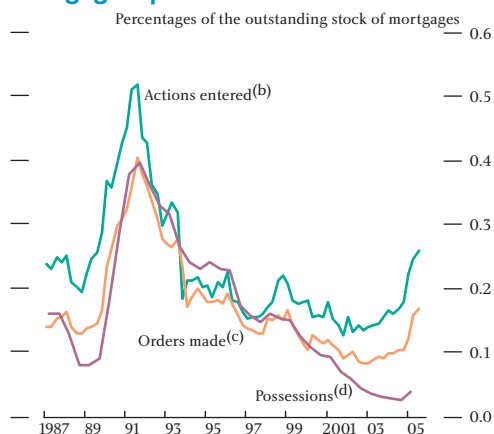
The number of debtors making petitions for bankruptcy increased by more than a third over the year to 2005 Q3.<sup>(1)</sup> But although the number of households in financial difficulty has risen, they still account for a small share of the total stock of outstanding debt.

The Bank commissioned NMG Research to conduct a survey of household finances in September 2005.<sup>(2)</sup> The survey suggested that there has been little change in the distribution of debt over the past year. The bulk of debt is owed by homeowners, the majority of whom appear to have little difficulty in servicing it. But the survey also suggests that there has been a small increase in financial pressure on households.

(1) For more details on the rise in personal insolvencies see the box on page 19 of the June 2005 *Bank of England Financial Stability Review*.

(2) For details of the previous year's NMG survey see May, O, Tudela, M and Young, G (2004), 'British household indebtedness and financial stress: a household-level picture', *Bank of England Quarterly Bulletin*, Winter, pages 414–28.

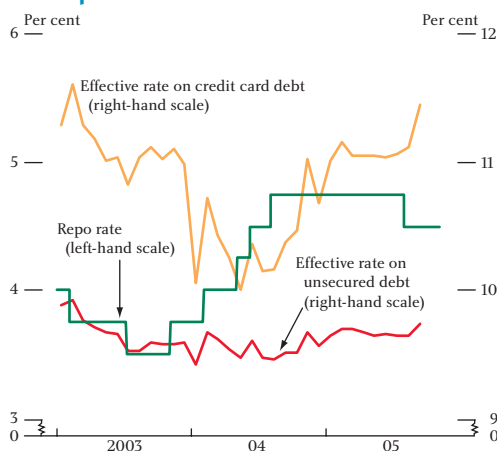
**Chart 1.8**  
**Mortgage repossession statistics<sup>(a)</sup>**



Sources: Council of Mortgage Lenders and Department for Constitutional Affairs.

- (a) These data are not seasonally adjusted.  
 (b) Where a claimant begins an action for an order for possession by way of a summons in a County Court. These data refer to England and Wales only.  
 (c) Where the court grants that order, following a judicial hearing. Note that courts often suspend the operation of those orders if the defendant commits to paying their current mortgage instalment and some accrued arrears. These data refer to England and Wales only.  
 (d) Properties taken into possession in the period by the lender including those voluntarily surrendered by the occupier. These data are for the United Kingdom as a whole.

**Chart 1.9**  
**Effective rates<sup>(a)</sup> on unsecured debt and the repo rate**



- (a) Defined as the flow of interest payments divided by the stock of outstanding debt. For more details on effective rates see pages 10–13 of the May 2005 edition of the *Bank of England Monetary and Financial Statistics* publication, available at: [www.bankofengland.co.uk/statistics/ms/2005/may/bankstats\\_full.pdf](http://www.bankofengland.co.uk/statistics/ms/2005/may/bankstats_full.pdf).

**Table 1.C**  
**Corporate conditions**

	Average <sup>(a)</sup> since 1987	Previous peak <sup>(b)</sup> 1990	1991	Latest peak <sup>(b)</sup> 2003	2005			
					2004	Q1	Q2	Q3
Capital gearing <sup>(c)</sup>	23.0	26.9	25.9	37.0	32.7	30.8	30.5	n.a.
Income gearing <sup>(d)</sup>	19.9	30.9	29.2	18.0	19.1	20.4	21.2	n.a.
PNFCs' borrowing <sup>(e)</sup>	2.4	3.2	0.2	1.7	1.8	4.5	5.0	4.4

- (a) Averages calculated on quarterly data.  
 (b) The peak years (1990 and 2003) are defined as the years in which the quarterly average of capital gearing was at its highest.  
 (c) Private non-financial corporations' (PNFCs') net debt as a percentage of market valuation. These data are not seasonally adjusted.  
 (d) PNFCs' interest payments as a percentage of gross operating surplus excluding the alignment adjustment.  
 (e) Quarterly growth in M4 lending to PNFCs. Distortions created by securitisations have been stripped out of these data to give a clearer picture of lending to PNFCs.

The MPC reduced the official rate by 25 basis points in August. That rate cut has been largely passed through to the standard variable rate on mortgage debt. But to date, there is little evidence that this cut has been passed through to the interest rates charged on unsecured debt. In fact, the effective rate on credit card debt has risen since the cut in official rates in August (Chart 1.9), perhaps reflecting mounting concerns among the lenders over the risk of default on this type of debt.

### Corporate financial conditions

Corporate financial conditions have remained relatively healthy over the past three months. The rise in oil prices is likely to have boosted the profits of companies who produce or refine crude oil. But for the rest of the corporate sector, rising oil prices are likely to have raised costs (Section 4). Nevertheless, the profits of non-oil UK companies rose by over 4% in the year to 2005 Q2. Looking ahead, there has been a gradual upward trend in the number of companies issuing profit warnings, suggesting that recent high rates of profitability may not persist.

The corporate sector remained highly geared by historical standards (Table 1.C). But there has been little to suggest that companies are having difficulties meeting those obligations. The current fraction of profits spent servicing debt — in other words, income gearing — has not been unusually high. Companies' appetite for borrowing remained undiminished, which was not the case in the early 1990s when capital gearing was also high and the pace of bank lending slowed markedly. Despite the fact that the corporate sector has run a financial surplus for the past 3½ years, companies have chosen not to reduce their debts. Instead they have accumulated financial assets — principally, currency and equities. Taken together, these data suggest that the state of corporate balance sheets is unlikely to act as a significant brake on future spending.



*Consumption growth has slowed since mid-2004, although the deceleration has been moderate relative to past episodes. Business investment increased strongly in 2005 Q2, but investment intentions in Q3 remained weak. Export growth picked up in Q2, although part of the increase may have been erratic. Sluggish household spending on goods depressed import growth in the first half of 2005. To date, the impact of higher oil prices on overseas demand appears to have been moderate.*

**Table 2.A**  
**Expenditure components of demand<sup>(a)</sup>**

Percentage changes on a quarter earlier

	2003 Average	2004 Average	Q3	Q4	2005 Q1	Q2
Household consumption <sup>(b)</sup>	0.6	1.0	0.4	0.6	0.1	0.4
Government consumption	1.5	0.1	0.2	0.3	0.5	0.5
Investment	-0.2	1.0	0.5	0.8	0.0	1.0
of which, business	-0.7	0.7	2.5	-0.2	0.4	1.5
<b>Final domestic demand</b>	<b>0.7</b>	<b>0.8</b>	<b>0.4</b>	<b>0.6</b>	<b>0.1</b>	<b>0.6</b>
Change in inventories <sup>(c)(d)</sup>	0.1	-0.1	0.1	-0.1	-0.1	-0.3
Alignment adjustment <sup>(d)</sup>	0.0	0.0	0.0	0.2	0.2	-0.4
<b>Domestic demand</b>	<b>0.8</b>	<b>0.7</b>	<b>0.4</b>	<b>0.7</b>	<b>0.2</b>	<b>-0.1</b>
Exports	1.0	1.4	1.0	1.1	-0.7	4.4
Imports	1.0	1.6	1.5	1.8	-0.8	1.9
Net trade <sup>(d)</sup>	0.0	-0.1	-0.2	-0.2	0.1	0.6
<b>Real GDP at market prices</b>	<b>0.8</b>	<b>0.6</b>	<b>0.3</b>	<b>0.5</b>	<b>0.3</b>	<b>0.5</b>
Memo: Nominal GDP at market prices	1.5	1.2	1.1	1.4	0.6	1.1

- (a) Chained volume measures, apart from nominal GDP.  
 (b) Excludes non-profit institutions serving households.  
 (c) Excludes the alignment adjustment.  
 (d) Percentage point contributions to quarterly growth of GDP.

Nominal GDP increased by 1.1% in 2005 Q2, a recovery from the weak rate in Q1. Similarly, real GDP growth picked up in 2005 Q2 and, at 0.5%, was just below the average rate in 2004 (Table 2.A). Real GDP was provisionally estimated to have risen by 0.4% in Q3 (Section 3).

## 2.1 Domestic demand

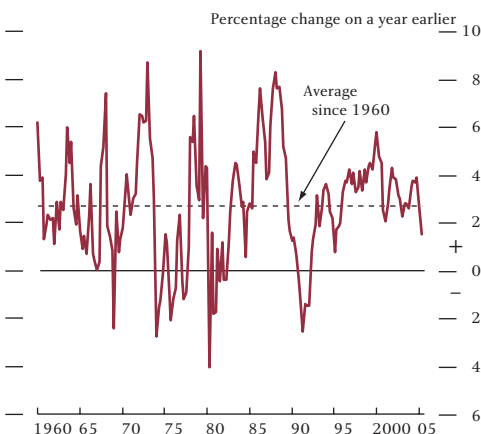
### Household consumption

Real consumption growth has slowed since mid-2004. In the year to 2005 Q2, consumption grew by 1.5% — the weakest rate for ten years. But initial estimates of consumption are subject to revision and, in the past, low growth rates have tended to be revised higher.<sup>(1)</sup> Even taking the data at face value, the easing in consumption to date has been moderate compared with many slowdowns since 1960 (Chart 2.1).

The growth of household spending on goods in Q3 appears to have remained sluggish. Although quarterly growth in retail sales volumes was stronger in 2005 Q2 and Q3 than at around the turn of the year, it was lower than the average growth in 2004. The CBI survey suggests a further dip in the annual growth of retail sales volumes in Q3 (Chart 2.2). Reports to the Bank's regional Agents also indicate subdued sales in recent months. But BRC data suggest a modest strengthening in annual growth.

Retail sales is a measure of spending in most shops, but it excludes spending on fuel, cars and services, and therefore only directly covers about a third of total household spending. Private car registrations in Q3 remained below their level of a year ago and were also weak in October. Reports to the Bank's

**Chart 2.1**  
**Household consumption<sup>(a)</sup>**

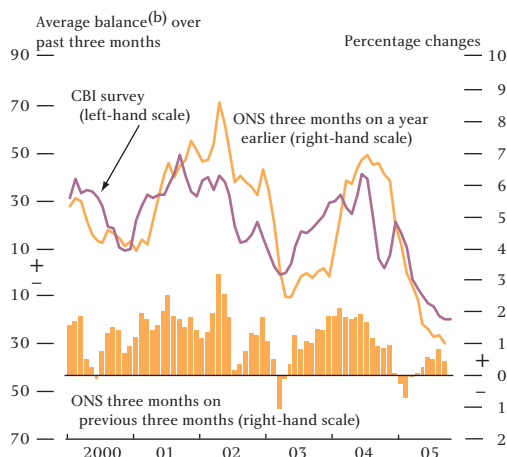


- (a) Chained volume measure. Excludes non-profit institutions serving households.

(1) See Castle, J and Ellis, C (2002), 'Building a real-time database for GDP(E)', *Bank of England Quarterly Bulletin*, Spring, pages 42–49.



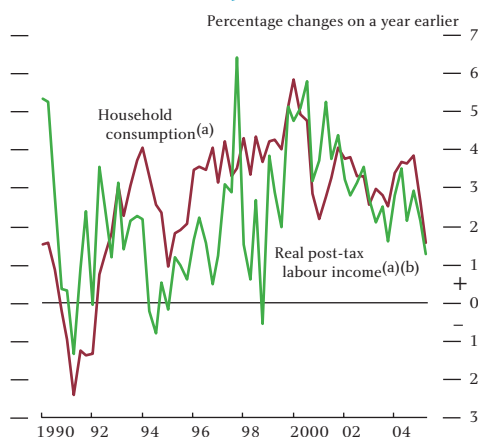
**Chart 2.2**  
**Indicators of retail sales<sup>(a)</sup>**



Sources: CBI and ONS.

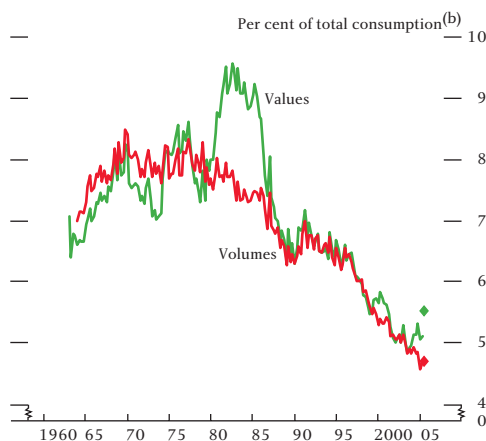
- (a) Volume measures.  
(b) Of respondents in the CBI Distributive Trades Survey reporting sales higher than a year earlier. The axis scale was chosen by regressing retail sales growth on a constant and the CBI balance.

**Chart 2.3**  
**Household consumption and income**



- (a) Includes non-profit institutions serving households.  
(b) Income from employment and self-employment, less income taxes and National Insurance contributions, plus government benefits.

**Chart 2.4**  
**Spending on fuel<sup>(a)</sup>**



- (a) Motor fuel plus housing energy bills. 2005 Q3 is marked as a diamond, and estimated assuming an unchanged volume share and the deflators rising in line with the equivalent CPI components.  
(b) Excludes non-profit institutions serving households.

regional Agents suggest that there was some softening in spending on leisure services such as hotels and restaurants.

Taking all of the evidence together, consumption appears to have remained subdued in Q3. Supporting that, the GfK NOP survey measure of household confidence has tumbled since early 2005. The next section considers some possible explanations for the slowdown in consumption including: developments in household incomes; past rises in debt and interest rates; and developments in the housing market.

## Influences on consumption

### Real income

Consumer spending is affected by current income and also expectations of future income. A household's real income will be squeezed if nominal income slows, or if price inflation picks up. The household may adapt its spending behaviour in response, particularly if the changes are unexpected and are likely to persist. Since 2000, the slowing in real income has broadly been matched by weaker consumption (Chart 2.3).

Fuel price rises have affected household budgets. Real income growth declined by about 2 percentage points in the year to 2005 Q2 (Chart 2.3). Around 0.6 percentage points of that slowing can be accounted for by rising prices, partly in response to higher energy prices. Fuel prices rose further in 2005 Q3.

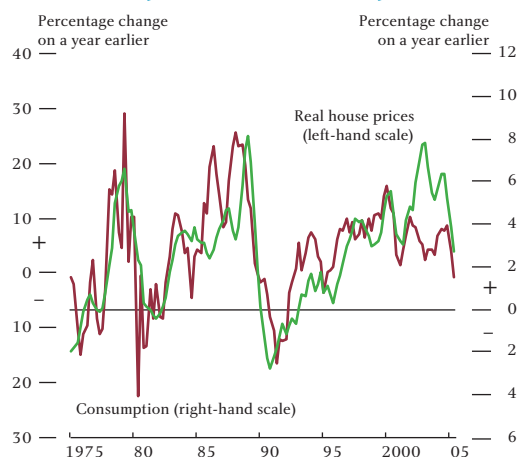
When the price of fuel increased in the past, households initially made only moderate reductions in the amount of fuel they consumed. So sharp rises in fuel prices caused the share of nominal spending on fuel to increase significantly. This effect was particularly pronounced in the 1970s (Chart 2.4). Since then, spending on fuel has declined as a share of total spending, which has made household real income less sensitive to changes in fuel prices. Nevertheless, between 2004 Q1 and 2005 Q3, the share of nominal household spending that went on fuel probably rose by about half a percentage point. That may have displaced some spending on other goods and services.

### Interest rates

The increases in interest rates between November 2003 and August 2004 are likely to have acted as a brake on household spending. Higher interest rates encourage households to save rather than to spend. Interest rate rises also transfer income from debtors to creditors.<sup>(1)</sup> Debtors' spending tends to be more sensitive to changes in their disposable income than that

(1) See page 11 of the August 2005 *Inflation Report* for a discussion of the size of these effects in the recent past.

**Chart 2.5**  
**Real house prices<sup>(a)</sup> and consumption<sup>(b)</sup>**



Sources: Nationwide and ONS.

- (a) Nationwide series, deflated by the consumers' expenditure deflator.  
(b) Chained volume measure of consumption excluding non-profit institutions serving households.

of creditors, so this transfer of income is likely to depress aggregate spending. Furthermore, some of the funds lent to UK households were raised overseas, and so some of the creditors that benefited from the interest rate rises were not UK residents. The increase in household debt in recent years has therefore probably made household spending more sensitive to changes in interest rates.

### The housing market

Weaker house price inflation is also likely to have dampened consumption growth. But as discussed in previous *Reports*, the link between the housing market and consumption is not straightforward. Consumption and house prices have moved together over much of the past 30 years (Chart 2.5). But that is largely because consumption and house prices are subject to common influences. They both depend upon households' expectations of incomes, their job security, and the degree of uncertainty that they face. So the past correlation does not necessarily mean that house price developments have caused movements in consumption.

Nevertheless, there are a number of ways that developments in the housing market may directly influence consumption. First, changes in housing wealth may affect consumption. House price rises benefit homeowners who plan to sell their house or trade down. But first-time buyers and those trading up are made worse off. So house price rises effectively transfer wealth from the young to the old. The net effect on household consumption will depend on how sensitive spending by those different groups is to changes in their wealth.

Second, changes in house prices affect homeowners' collateral. When collateral rises, households are able to borrow more and at lower rates of interest.<sup>(1)</sup> So if they wish to borrow to bring forward some consumption, they are better able to do so, although they will have to consume less in the future to repay the higher debt. The impact on consumption of changes in the value of collateral is likely to vary over time. If there are many homeowners who wish to borrow for consumption but have only limited collateral, then a rise in house prices, for whatever reason, might give a large boost to spending. But if most homeowners have high levels of collateral because of past house price rises, then they already have ample scope to borrow. In that case, modest changes in house values in either direction would be unlikely to have much impact on household spending.

Third, variations in the volume of housing transactions can affect consumption. During housing market upturns, the

(1) See Aoki, K, Proudman, J and Vlieghe, G (2001), 'Why house prices matter', *Bank of England Quarterly Bulletin*, Winter, pages 460–68.

number of transactions typically increases as more people move house. So spending on associated goods and services (such as furniture and decoration) tends to rise. But, according to Bank estimates,<sup>(1)</sup> the effect is likely to be small relative to aggregate consumption.

The MPC continues to believe that the slowing in house price inflation and activity played a role in the recent slowing in consumption. Indeed, throughout 2004, one of the reasons the MPC expected consumption to slow was the projected cooling in the housing market.<sup>(2)</sup> But the impact of housing market developments on household spending is likely to vary over time. The relationship seems to have been weaker during the latest housing market cycle, even after taking account of developments in households' incomes and financial wealth.

The slowing in consumption has probably reflected a range of factors including weaker growth in post-tax nominal incomes, higher consumer price inflation, past increases in interest rates and the cooling housing market. But, inevitably, there is uncertainty as to how much weight to place on the different explanations. The MPC's central projection is for continued subdued growth in consumer spending in the second half of 2005.

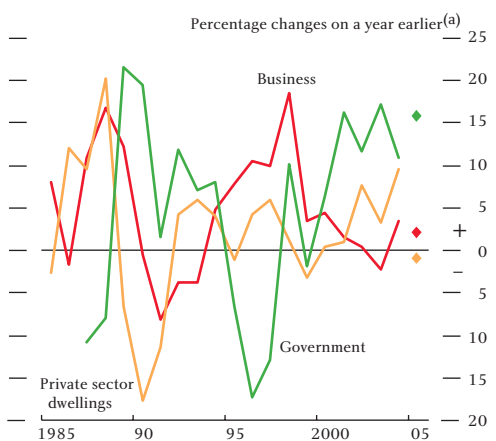
## Investment

Whole-economy investment grew by 1% in Q2, driven by a 1.5% rise in business investment. Government investment fell by 10.3%, but that only partly unwound the sharp rise in Q1. Investment in dwellings was broadly flat in the year to 2005 Q2, reflecting the slowdown in the housing market (Chart 2.6).

Although business investment growth has strengthened, there is little indication of a return to the rates of increase that occurred in the latter half of the 1990s. That is despite the improvement in corporate finances since 2003: profits have increased reasonably strongly, capital gearing has fallen, and the cost of corporate finance has declined. The low recorded investment growth in the past year or so may be genuine. But it is also possible that actual investment was stronger than these initial estimates. In the past, early estimates of investment growth have tended to be revised up as the ONS received more information.

Business surveys suggest little prospect of a substantial strengthening in investment in the near future. Investment intentions appear to have softened compared with 2004

**Chart 2.6**  
**Investment components**



(a) 2005 data are marked as diamonds and are the annualised change between 2004 H2 and 2005 H1.

(1) See Benito, A and Wood, R (2005), 'How important is housing market activity for durables spending?', *Bank of England Quarterly Bulletin*, Summer, pages 153–59.

(2) See for example, page 45 of the May 2004 *Inflation Report*.

**Table 2.B**  
**Survey indicators of future investment<sup>(a)</sup>**

	Average since 1989	2003 Average	2004 Average	2005 Q1	2005 Q2	2005 Q3
<b>Investment intentions</b>						
BCC service sector	14	11	18	11	8	6
BCC manufacturing <sup>(b)</sup>	10	7	13	10	9	9
CBI manufacturing <sup>(c)</sup>	-8	-14	-9	-16	-15	-19
CBI distributive trades <sup>(c)</sup>	-1	-4	19	-18	-29	5
<b>Confidence in profitability<sup>(c)</sup></b>						
BCC service sector	34	37	43	38	29	28
BCC manufacturing <sup>(b)</sup>	29	32	33	34	34	23

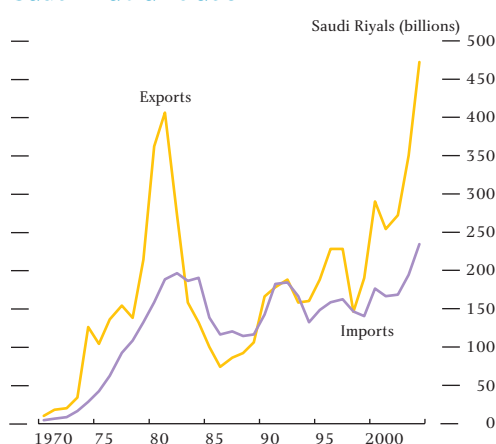
Sources: BCC and CBI.

(a) Percentage balances of respondents. Data have not been seasonally adjusted.

(b) Includes agriculture, energy and construction.

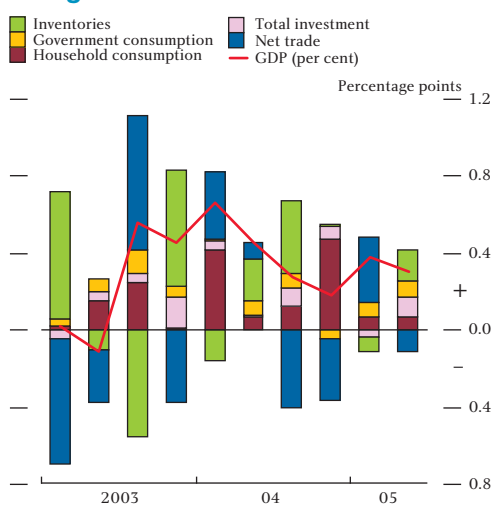
(c) Over the next twelve months.

**Chart 2.7**  
**Saudi Arabian trade**



Source: Thomson Financial Datastream.

**Chart 2.8**  
**Contributions to quarterly euro-area GDP growth<sup>(a)</sup>**



Source: Eurostat.

(a) Volume measures.

(Table 2.B) and contacts of the Bank's regional Agents confirm that picture. Despite rising rates of return over the past five years, confidence in near-term profitability has dipped. That may reflect weaker expected sales associated with the slowdown in household spending, or concerns about upward pressure on costs from higher oil prices.

Inventory levels were almost unchanged in 2005 Q2. That represented the weakest stockbuilding number since 1996 Q2. It was considerably lower than the figure for Q1 and reduced GDP growth by 0.3 percentage points (Table 2.A). But estimates of inventories are particularly prone to revision.

## Government consumption

Government consumption grew by 0.5% in 2005 Q2, the same as GDP growth (Table 2.A). Strong growth in public expenditure has helped to sustain demand growth in recent years.<sup>(1)</sup>

## 2.2 External demand and UK net trade

### External demand

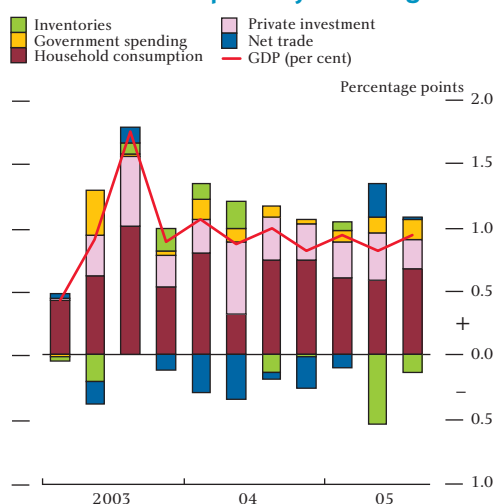
World GDP appears to have grown reasonably strongly in 2005, although growth has moderated since 2004 (Chart 4.2 in Section 4). The rise in the oil price since 2003 seems to have had a relatively muted impact on world activity so far. In part, that is because the importance of oil and other fuels in global production has declined.

The rise in oil prices will alter the balance of growth between regions and that may have an effect on demand for UK exports. Higher oil prices have effectively transferred income from oil-consuming countries to oil-producing countries (Section 1). The scale of that transfer is large relative to the economies of oil producers, and so a high proportion of the increased income may tend to be saved. For example, the value of Saudi Arabian exports has swung sharply in response to increases in the oil price, but Saudi imports have grown less rapidly (Chart 2.7). The pickup in Saudi imports is consistent with reports to the Bank's regional Agents, which suggest that there has been strong demand for UK exports from oil-producing countries. But the bulk of UK exports go to oil-consuming countries: two thirds of exports go to the euro area and North America.

Euro-area GDP grew modestly in 2005 Q2, continuing the spell of below-trend growth since early 2004 (Chart 2.8).

(1) For a discussion of how the Committee assesses the impact of government demand on inflation, see the box on pages 24–25 of the May 2004 *Inflation Report* and also Hills, B, Thomas, R and Yates, T (2005), 'The impact of government spending on demand pressure', *Bank of England Quarterly Bulletin*, Summer, pages 140–52.

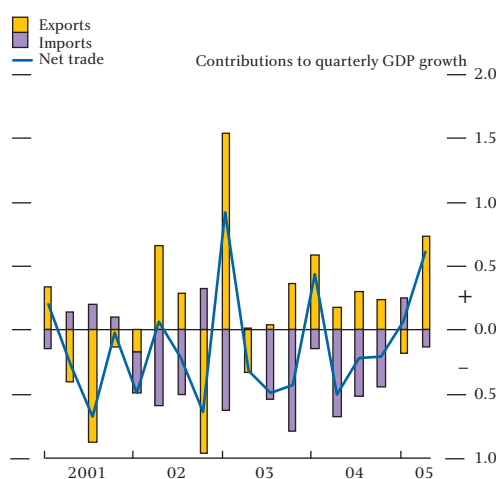
**Chart 2.9**  
Contributions to quarterly US GDP growth<sup>(a)</sup>



Source: US Bureau of Economic Analysis.

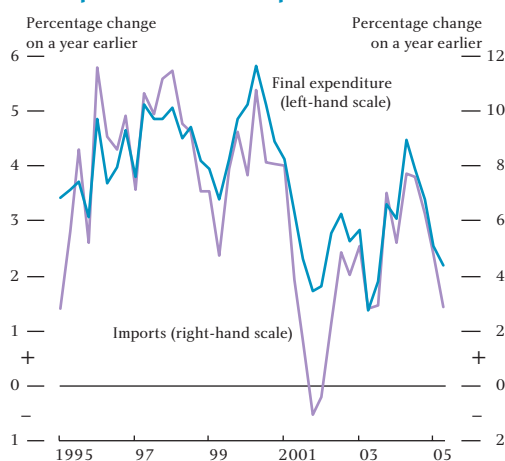
(a) Chained volume measures.

**Chart 2.10**  
UK net trade<sup>(a)</sup>



(a) Chained volume measures, excluding the estimated effects of VAT fraud.

**Chart 2.11**  
UK imports and final expenditure<sup>(a)</sup>



(a) Chained volume measures. Imports excluding the estimated effects of VAT fraud.

Surveys of euro-area firms suggest that output growth in Q3 probably picked up a little. Household consumption growth in 2005 has been subdued. In Germany, consumption fell in Q1 and Q2, taking it back to the same level as at the end of 2001. There is little indication of a pickup in household spending in Germany in Q3; but some recovery in Q4 and beyond is possible following the recent strengthening in business and household confidence. Across the euro area, fuel price rises have depressed real household incomes in 2005, which may account for some of the weakness in consumption. But corporate finances have improved, which should support business investment.

US output growth in Q3 remained vigorous (Chart 2.9) despite the severe disruption from Hurricanes Katrina and Rita. Nevertheless, employment fell in September and picked up only modestly in October, and household confidence dipped, which may feed through to weaker consumption growth in Q4.

Japanese GDP grew by 0.8% in Q2, following an increase of 1.4% in Q1. Consumption grew reasonably strongly, supported by increases in employment. Business confidence remained upbeat, suggesting further recovery in the near term. Rapid growth in China continued, and on average the pace of growth in other Asian countries remained robust.

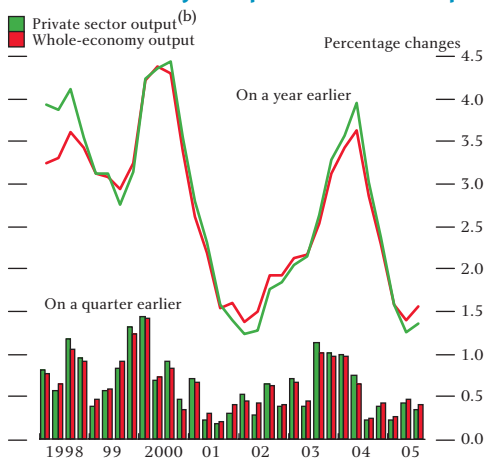
### UK net trade

UK exports of goods and services grew very strongly in 2005 Q2. According to ONS estimates, that was partly driven by increased VAT fraud. But even excluding the estimated effects of that fraud, exports have been volatile in recent months. Growth in Q2 may have been erratically high, as exports rebounded from the fall in Q1 (Chart 2.10).

Imports were also pushed up by VAT fraud in Q2. But excluding that effect, import growth has slowed sharply since mid-2004, in line with the weakness in final expenditure growth (Chart 2.11). The combination of weak growth in imports and a pickup in exports meant that net trade contributed 0.6 percentage points to GDP growth in Q2. That was the largest positive contribution since 2003 Q1 (Chart 2.10). But the ONS estimate of net trade in Q2 is more uncertain than usual because of possible distortions from the surge in fraud. Monthly trade data suggest that net trade made a reduced contribution to GDP growth in Q3.

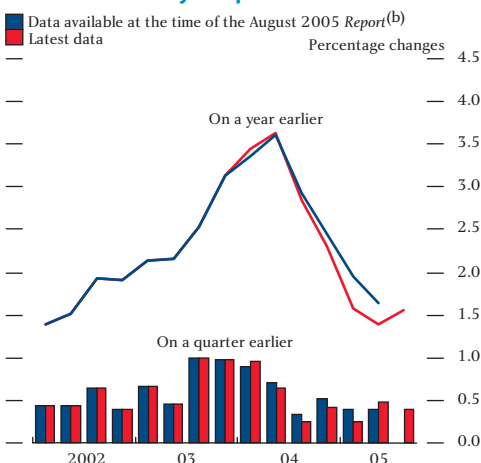
Output growth slowed considerably during 2004 and continued at a subdued pace into 2005. Private sector employment growth, however, remained relatively robust, implying below-trend productivity growth. Business surveys, along with the slowing of productivity growth, suggest some decline in capacity pressures within companies. Higher levels of net migration have boosted labour supply and eased the degree of tightness in the labour market in recent years. But the rise in energy prices may have made some elements of capacity unprofitable, and hence lowered potential supply.

**Chart 3.1**  
**Whole-economy and private sector output<sup>(a)</sup>**



(a) Chained volume measures of gross value added at basic prices.  
(b) This chart uses a proxy measure for private sector output which excludes public administration, defence and social security, education and health from the average measure of gross value added. The figure for 2005 Q3 was estimated using information in the preliminary GDP release.

**Chart 3.2**  
**Whole-economy output<sup>(a)</sup>**



(a) Chained volume measure at basic prices.  
(b) 2005 Q3 data were unavailable at the time of the August Report.

## 3.1 Output

Whole-economy output growth slowed sharply during 2004 and remained subdued into 2005. In the year to 2005 Q2, output measured at basic prices grew by just 1.4%. Provisional official data released in October suggest that quarterly growth was 0.4% in 2005 Q3 (Chart 3.1); annual growth picked up moderately to 1.6%.

Output in the private sector may be more relevant to assessing the degree of inflationary pressure in the economy than whole-economy output. That is because the MPC targets CPI inflation, and the vast majority of goods and services in the CPI basket are produced by private sector companies. Four-quarter growth of private sector output slowed in 2005 Q2 to 1.3%; and Bank estimates suggest that it picked up only modestly in 2005 Q3. The slowdown in private sector output growth since early 2004 has been more pronounced than in the economy as a whole (Chart 3.1).

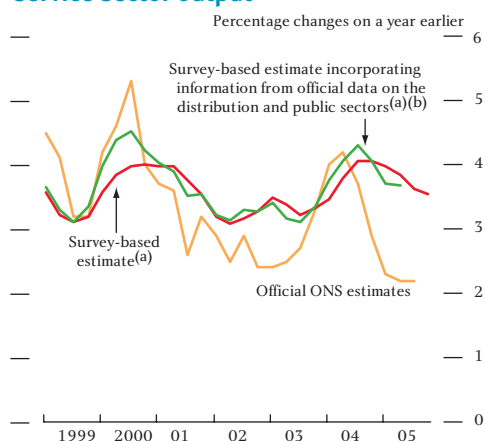
### Service sector

The *Quarterly National Accounts* released in September suggested a more marked slowdown than the data available at the time of the August Report (Chart 3.2). The service sector accounted for most of the downward revisions to whole-economy output growth. The ONS revised down quarterly service sector output growth between 2004 Q2 and 2005 Q1, and on the latest data the rate of growth has been below its long-run average for over a year.

An alternative way of estimating the strength of activity in the service sector is to look at surveys of service sector output. These surveys can be transformed into indicators of service sector output growth, based on their historical relationships



**Chart 3.3**  
**Official estimates and indicators of**  
**service sector output**



Sources: Bank of England, BCC, CIPS, ONS and Ashley, J., Driver, R., Hayes, S and Jeffery, C (2005), 'Dealing with data uncertainty', *Bank of England Quarterly Bulletin*, Spring, pages 23–29.

- (a) The survey-based estimate is derived from the CIPS and BCC surveys using simple OLS regressions.  
 (b) The distribution and public sectors are included by aggregating the survey-based estimate in the red line and official data for distribution and public sector output, appropriately weighted.

with mature vintages of official data.<sup>(1)</sup> A survey-based estimate has consistently pointed to stronger growth over the recent past than the official data (Chart 3.3). Following the latest revisions, the divergence between the surveys and the official data has become even more pronounced.

There is considerable uncertainty surrounding both official and survey-based estimates, meaning that the underlying momentum in the service sector is unclear. Previous Reports have highlighted the uncertainty surrounding early official estimates of quarterly service sector output growth. Analysis of past revisions suggests that the uncertainty surrounding these estimates diminishes only gradually, with substantial revisions often occurring long after the first estimates are published. And there is a tendency for low initial estimates to be revised upwards. But past revisions may not always be a good guide to future revisions. That might be particularly true if improvements have been made in measuring service sector output, for example.

By contrast, surveys are not typically revised over time. But one weakness of surveys is that the coverage is not as comprehensive as the ONS data. The CIPS survey, for example, does not include the distribution sector, which makes up around a sixth of service sector output. Some of the recent slowing in service sector output growth has been in the distribution sector. The surveys also do not typically cover activity in the public sector. But even after accounting for developments in both the distribution and public sectors, the business surveys continue to point to stronger service sector output growth than the ONS data (Chart 3.3).

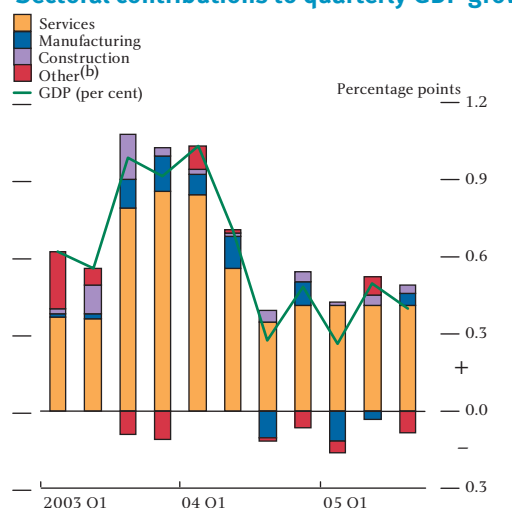
Another weakness of surveys is that the sample sizes are typically much smaller than those used by the ONS. There is a risk, therefore, that the respondents are not representative of the economy as a whole. In addition, survey questions normally ask about the direction of movements in output rather than their size. If the service sector weakness reflected a sharp fall in the growth of a small number of companies — rather than a relatively moderate decline in the growth of a large number — then a survey-based estimate might understate the degree of weakness in service sector output. Whether that is currently happening is uncertain. Nevertheless, the MPC continues to place some weight on the surveys in assessing recent developments in service sector output.

Growth in service sector output remained relatively subdued in 2005 Q3, according to the ONS, while the survey-based estimate points to a slight slowing of growth in the second half of 2005 (Chart 3.3). Some indicators of service sector

(1) See page 20 of the August 2005 Report.

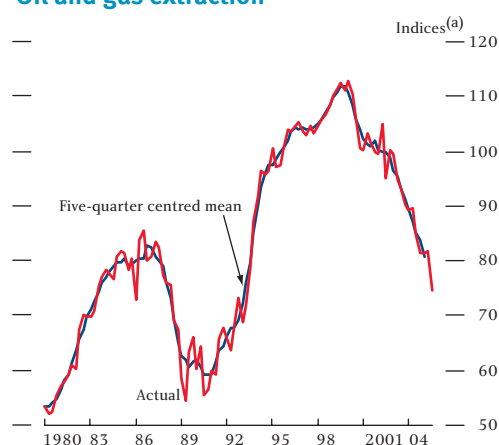


**Chart 3.4**  
Sectoral contributions to quarterly GDP growth<sup>(a)</sup>



(a) Chained volume measure at market prices.  
(b) Includes agriculture, extraction, utilities and the difference between GDP at market prices and GDP at basic prices.

**Chart 3.5**  
Oil and gas extraction



(a) Actual index averages 100 in 2002. The data for this chart were released after the GDP data shown in Chart 3.4.

economic health, such as the number of profit warnings, have deteriorated, which is consistent with a weakening in activity.

### Manufacturing sector

Manufacturing output was less of a drag on whole-economy output growth in 2005 Q2 than in the previous quarter (Chart 3.4). And growth picked up to 0.4% in 2005 Q3, the first quarter of positive growth in 2005. Looking ahead, business surveys point to further growth, a picture that is confirmed by the Bank's regional Agents.

### Oil and gas

As highlighted in Section 4, oil and gas prices have risen sharply over the past couple of years. There are a number of potential implications for the UK economy from the rise in energy prices. One channel through which higher energy prices affect UK output is the oil and gas extraction industry, which represents around 2% of UK output.

The output of the oil and gas sector has been on a downward trend since 2000 (Chart 3.5). But the number of licences for exploration has been rising since 2002. While that primarily reflects changes to licensing arrangements, designed to stimulate exploration, the higher oil price may also mean that more oil fields become viable. And Department for Trade and Industry data show that a record number of licences to explore for oil in the North Sea were granted in 2005. It is difficult to forecast if, and how quickly, such new oil production can be brought on stream. But looking ahead, the pace of decline in this sector may slow as a result of these developments.

In 2005 Q3, output of the oil and gas extraction sector fell particularly sharply, by 8.4%; such a decline would subtract 0.2 percentage points from private sector output growth. That decline, however, was due largely to an unusually high level of maintenance in August and to a fire in an oil production facility, and so is likely to have been erratic.

Although oil and gas extraction is a small sector of the economy, it is sufficiently volatile to affect private sector output growth from quarter to quarter. Private sector output growth is a key input into the Committee's assessment of the degree of inflationary pressure. However, there is a case for focusing on private sector output growth excluding oil and gas extraction. That is because the prices of oil and gas mostly reflect developments in world markets, rather than capacity pressures in UK production of oil and gas. So the growth rate of output in oil and gas extraction probably carries relatively little news for medium-term inflationary pressures in the United Kingdom.<sup>(1)</sup>

(1) See the box on pages 26–27 of the August 2003 Report.

## 3.2 Supply

The supply capacity of the economy depends on the labour and capital employed by businesses and public sector organisations, as well as the efficiency with which these inputs are employed. But the potential supply of the UK economy may also be influenced by the rise in the prices of oil and gas, given their roles as factors of production. The effect of higher energy prices on the United Kingdom's supply capacity is discussed in a box on page 19. This section discusses developments in labour, productivity and capital.

### Labour

Employment growth has remained reasonably robust as GDP growth has slowed (Chart 3.6). There are a number of possible explanations for that apparent divergence. It could be that companies have been 'hoarding' labour to try to avoid hiring and firing costs, in the belief that the easing in output growth would prove temporary. If the slowdown in output proved to be more sustained than companies have been expecting, they could begin to trim their workforces in the coming months. So the protracted softness in GDP growth could herald some easing in employment growth. Indeed, the Bank's regional Agents have reported a recent softening in firms' employment intentions.

But if companies have been hoarding labour, then the slowing in output would usually have led to a fall in the hours worked by the labour force. That does not appear to have been the case over the past year (Chart 3.7). It could be that hours worked are poorly measured. Alternatively, it could be that output growth has been underrecorded, and that the true slowing in GDP growth is not as marked as suggested by the official data.

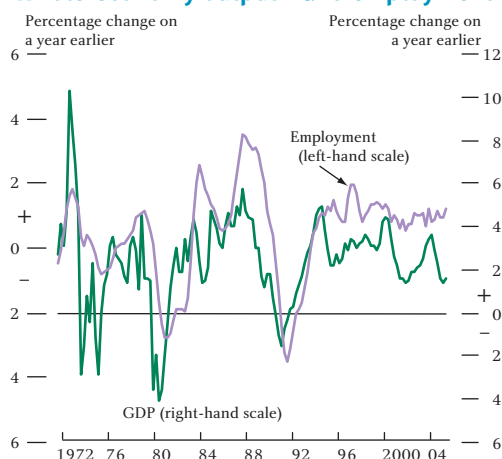
Some official labour market data have been revised since the *August Report*, following updated official estimates of the UK population in mid-2004 and mid-2005, and new seasonal adjustment factors. The revised population data reflected, in part, greater estimated net migrant flows, as discussed below.

### International migration

A rise in the population of working age represents an increase in labour supply, and thereby adds to the economy's potential to produce goods and services. The population aged 16 and over is estimated to have grown faster in recent years than previously thought, and was some 136,000 higher in 2005 Q2 than had been assumed by the ONS before it revised the data.

**Chart 3.6**

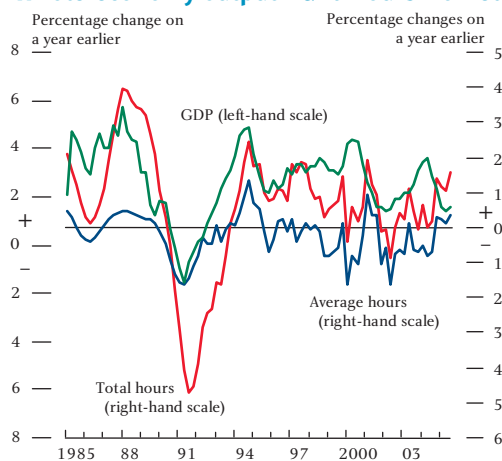
**Whole-economy output<sup>(a)</sup> and employment<sup>(b)</sup>**



(a) Chained volume measure at basic prices.  
(b) LFS data. 2005 Q3 figure is for growth in June to August 2005 compared with the same three months a year earlier.

**Chart 3.7**

**Whole-economy output<sup>(a)</sup> and hours worked<sup>(b)</sup>**



(a) Chained volume measure at basic prices.  
(b) LFS data on actual hours worked. Average hours worked is defined as total hours worked divided by the number of people in employment. 2005 Q3 figures are for growth in June to August 2005 compared with the same three months a year earlier.

## How do higher energy prices affect supply?

The economy's capacity to supply goods and services depends on the size and quality of the labour force, the capital at its disposal and the technical efficiency with which workers use capital to produce goods and services. But businesses also use energy in the production process. Energy costs have increased sharply in recent years on the back of higher oil and gas prices. This box assesses the ways in which those higher prices affect the economy's supply potential. It also compares the current impact with previous episodes where energy costs rose sharply.

Higher energy prices could affect supply in a variety of ways. Higher prices directly reduce business demand for energy itself. That should dampen companies' capacity to produce output as a result. But higher energy prices can also affect both the level of employment and amount of capital used by businesses. And it is possible that higher prices affect the technical efficiency with which capital and labour are used.

Higher energy prices could directly reduce business demand for labour and capital. For example, dearer energy makes it more costly to employ capital equipment that uses oil. So machinery might be run for less time, or indeed scrapped, thereby reducing the effective stock of capital equipment. And in those situations, companies' demand for labour could also fall. That would occur if businesses cannot easily replace capital equipment with labour. But over the longer term, if high energy prices persist, then it is likely that businesses would replace their capital stock with less energy-intensive equipment.

More costly energy could also increase unemployment in particular sectors of the economy. Consumers might switch away from expensive energy-intensive goods and workers in those industries would become displaced. That could reduce supply permanently if those displaced become discouraged and leave the labour market altogether. Or it could reduce supply for a period as

workers retrain and build up the skills necessary for alternative employment.

The demand for labour could also fall if workers successfully resisted the reduction in real spending power caused by higher energy prices. As discussed in Section 4, more expensive energy feeds through to consumer prices. That should reduce households' real take home pay. But if workers achieve higher pay in compensation, then that would push up firms' labour costs and dampen their demand for staff. Similarly, dearer energy should make production of capital goods more expensive. And if capital goods producers successfully pass on the higher costs to other businesses, then that could dampen the whole-economy demand for capital.

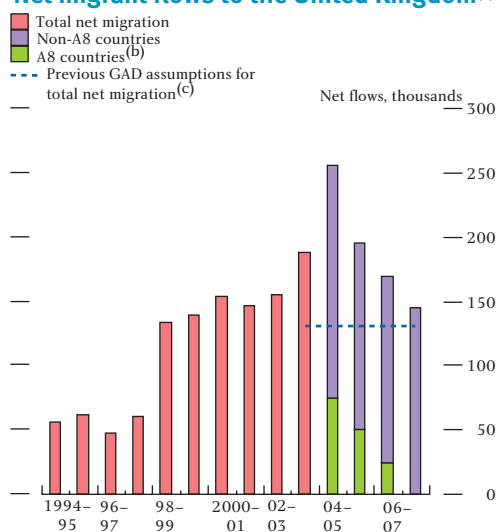
Furthermore, increased costs could squeeze profits. And that may force credit-constrained firms to cut back on investment, so hindering capital accumulation. Or it could stymie technical progress if businesses reduced their research and development budgets.

### Current impact compared with the past

In the 1970s and early 1980s energy prices rose sharply and unemployment increased. Investment growth was weak over much of the period and productivity growth declined.<sup>(1)</sup> But it is unlikely that similar developments will follow the most recent energy price hikes. First, the 1970s economy was plagued by a host of problems detrimental to economic performance which were unrelated to or predated the energy price increases. These included: greater union power and wage indexation, which may have impeded the required adjustment in real wages; restrictive work practices; a large number of days lost through strikes; and policy misjudgements. Second, the share of oil and gas input costs in gross output has remained lower than the level reached in the 1970s and early 1980s. So the size of the supply-side effects stemming from today's energy price increases should be smaller than in the past.

(1) See Oulton, N and O'Mahony, M (1994), *Productivity and growth — A study of British industry 1954–1986*, Cambridge University Press.

**Chart 3.8**  
**Net migrant flows to the United Kingdom<sup>(a)</sup>**



Sources: GAD and ONS.

- (a) Data up to mid-2004 are changes in the population less births and deaths. Figures from mid-2004 are GAD projections. Data are for net flows between mid-year points. The mid-2003 to mid-2004 figure is approximate, estimated using information contained in the ONS's population statistics release in August 2005, available at: [www.statistics.gov.uk/pdfr/popest0805.pdf](http://www.statistics.gov.uk/pdfr/popest0805.pdf).
- (b) The A8 countries are: the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia and Slovenia.
- (c) Assumptions made in 2004.

Net migrant flows accounted for much of the increase in population. These flows partly reflect the relaxation of border regulations on 1 May 2004 to allow immigrants from the EU Accession countries to join the UK workforce.<sup>(1)</sup> Recent estimates from the Government Actuary's Department (GAD) suggest that, in the year to mid-2005, the net inflow of migrants from these countries was 75,000 (Chart 3.8). In addition, the official estimate of net migrant flows from non-Accession countries for mid-2005 has been revised upwards. Consequently, total net migrant flows are estimated to have been around 250,000 in the year to mid-2005. GAD assumes that these net flows will fall back to 145,000 by mid-2008, mostly reflecting a fall in net flows from the EU Accession countries (Chart 3.8).

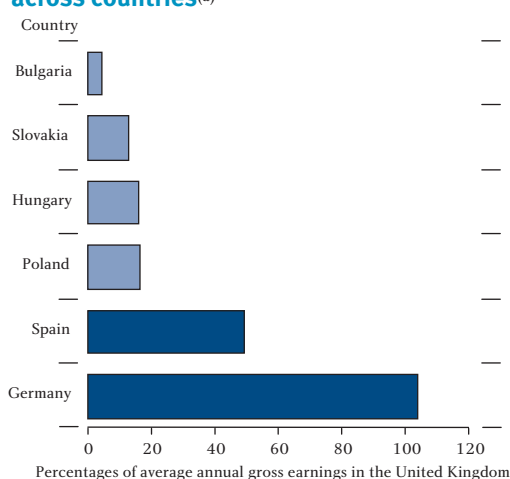
The exact magnitude of these net migrant flows is inevitably uncertain, and there are questions about the quality of all migration data.<sup>(2)</sup> The Committee, through the reports of the Bank's regional Agents and other information, had previously noted the substantial increase in migrant workers during the past couple of years. The latest official estimates, therefore, have not led the MPC to change substantially its view of the United Kingdom's labour supply over the recent past.

If migrants were attracted to the United Kingdom by the relative abundance of jobs and the cyclical strength of the economy in 2003 and 2004, then migrant flows might fall back if growth were either to slow further or remain subdued. Alternatively, it may be the case that last year's relaxation in border controls will result in a one-off adjustment to the number of migrants in the United Kingdom from the EU Accession countries. Once that adjustment has taken place, the net flows of migrants from these countries may cease.

But if workers migrate because earnings are much higher in the United Kingdom, then migrant flows may be more persistent, and migrants may also choose to remain here. Data from Eurostat indicate that in 2003, average annual gross earnings in the United Kingdom were around six times the average in Poland and Hungary, for example (Chart 3.9). In addition, Bulgaria and Romania are scheduled to accede in 2007, which may lead to additional net flows of migrants.

Another factor that may influence the number of migrants, and whether they remain in the United Kingdom, is the removal of barriers to entry by other European countries. That may divert migrant workers away from the United Kingdom. But the exact timing of the relaxation of restrictions is uncertain.

**Chart 3.9**  
**Comparison of average annual gross earnings across countries<sup>(a)</sup>**



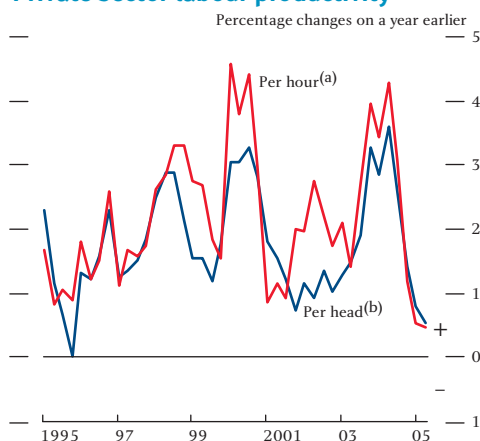
Source: Eurostat.

- (a) Average annual gross earnings in industry and services (of full-time employees in companies with ten or more employees). Data are for 2003, at current prices, based on purchasing power parity.

(1) The EU Accession countries are: Cyprus, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia, and Slovenia.

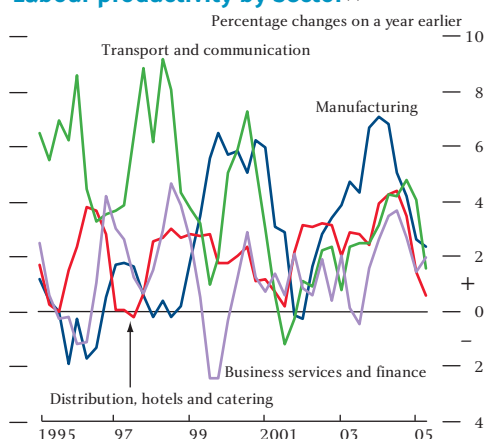
(2) See the box on international migration data on pages 22–23 of the August 2005 Report.

**Chart 3.10**  
**Private sector labour productivity**



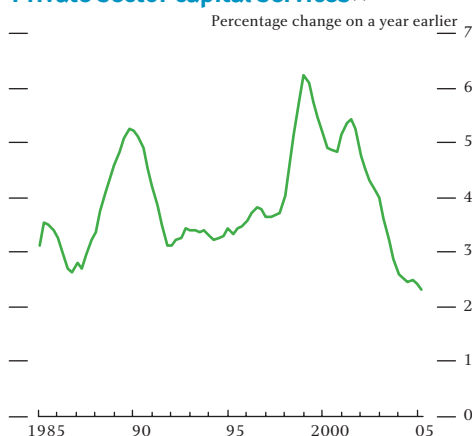
(a) Based on LFS microdata and ONS public sector employment data.  
(b) Data on private sector employment are calculated here as the residual of total LFS employment less public sector employment. Between 1994 and 1999, data for public sector employment are only available from the ONS on an annual basis. A quarterly path has, therefore, been interpolated by Bank of England staff. The quarterly data for public sector employment are also only available on a non seasonally adjusted basis and so these data have been seasonally adjusted by Bank staff. Adjustments have also been made using LFS microdata to the ONS's public sector employment series to take out the employees who are working in the public sector as their second job and where their first job is in the private sector.

**Chart 3.11**  
**Labour productivity by sector(a)**



(a) Gross value added per job, based on Workforce jobs. Workforce jobs data have been adjusted so as to be on a calendar quarter basis.

**Chart 3.12**  
**Private sector capital services(a)**



(a) See Oulton, N and Srinivasan, S (2003), 'Capital stocks, capital services, and depreciation: an integrated framework', Bank of England Working paper no. 192, for how these data are constructed.

The overall impact of higher net migration on inflationary pressures is far from clear. Higher net migrant flows boost potential supply. But they will also tend to boost demand, as migrant workers will spend at least some of their income on goods and services produced by UK companies. That may act to offset some of the downward pressure on inflation from the increase in the level of potential supply. Overall, it seems likely that net migrant flows to the United Kingdom have acted to reduce inflationary pressure over the past. In the future, these flows might be expected to continue raising potential supply, and provide some further boost to demand.

## Productivity

Labour productivity growth in the private sector eased further in 2005 Q2. Productivity growth can be measured in terms of output per head, or output per hour. Four-quarter growth in output per head slowed to just 0.5%, its weakest rate in almost ten years (Chart 3.10). Output per hour also grew at 0.5% in the year to 2005 Q2.

To the extent that it is measured accurately, much of the recent weakness in labour productivity growth is likely to reflect cyclical factors. Output growth has slowed over recent quarters, while employment has remained relatively robust (Section 3.2) — leading to a decline in measured productivity growth. A cyclical explanation for the weakening in productivity growth is also consistent with the recent decline in factor utilisation (Section 3.3); and with the slowdown in productivity growth being broad based (Chart 3.11).

## Capital

In judging potential supply, the most appropriate measure of capital is one that weights assets by estimates of their contribution to output, so called 'capital services'. The annual rate of growth of capital services is estimated to have fallen to 2.3% in 2005 Q2 (Chart 3.12), the slowest rate of growth in more than 20 years.

## 3.3 Balance between output and potential supply

### Factor utilisation

The intensity with which companies use capital and labour — factor utilisation — is a key indicator of inflationary pressure. It seems likely that the degree of factor utilisation has eased recently, reflecting the slowing in output growth. Surveys point to an easing of capacity pressures in both the manufacturing and service sectors (Table 3.A). The Bank's regional Agents also report some easing of capacity pressures.



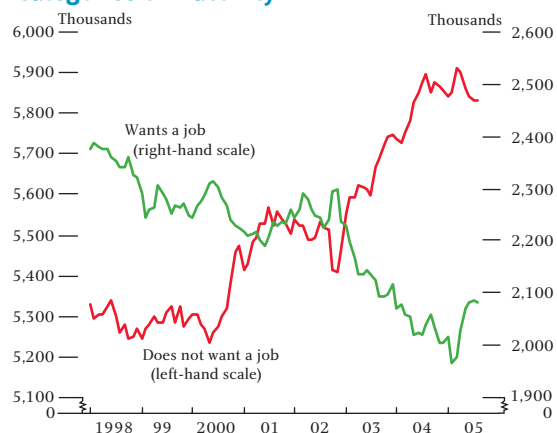
**Table 3.A**  
**Surveys of factor utilisation<sup>(a)</sup>**

	1995–2004 Average <sup>(b)</sup>	2004		2005		
		Q3	Q4	Q1	Q2	Q3
<b>Manufacturing</b>						
CBI	40	45	41	39	45	39
BCC <sup>(c)</sup>	36	41	40	38	38	35
<b>Services</b>						
BCC	39	39	44	38	36	35

Sources: BCC and CBI.

- (a) Percentage of firms working at full capacity. The series are non seasonally adjusted.  
 (b) Historical averages of survey balances can be used to gauge whether the economy is approaching 'normal' levels of factor utilisation. Different time periods though can give different impressions of what is 'normal'. See the box on pages 24–25 of the February 2005 *Report*.  
 (c) Also includes agriculture, energy and construction.

**Chart 3.13**  
**Categories of inactivity<sup>(a)</sup>**



- (a) Number of inactive people within the working-age population who want or do not want a job. Three-month moving average measures.

**Table 3.B**  
**Survey evidence on recruitment difficulties and labour shortages**

	Average <sup>(a)</sup>	2004			2005			
		Q2	Q3	Q4	Q1	Q2	Q3	Oct.
<b>Availability of agency staff<sup>(b)</sup></b>								
Deloitte/REC: Permanent	48	39	39	39	43	46	48	47
Deloitte/REC: Temporary	49	42	44	44	46	49	51	50
<b>Recruitment difficulties<sup>(c)(d)</sup></b>								
BCC: Manufacturing <sup>(e)</sup>	65	66	51	60	58	44	44	n.a.
BCC: Services	60	55	57	66	64	63	58	n.a.
<b>Factors likely to limit output<sup>(c)(f)(g)</sup></b>								
CBI: Skilled labour	12	13	14	14	11	11	16	n.a.
CBI: Other labour	3	7	4	2	3	3	4	n.a.

Sources: BCC, CBI and Deloitte/REC *Report on Jobs*.

- (a) Since 1995 except Deloitte/REC, where the average is since October 1997 and is based on monthly data.  
 (b) Indices, for which 50 represents no change.  
 (c) Data are non seasonally adjusted.  
 (d) Percentage balance of firms.  
 (e) Includes agriculture, energy and construction.  
 (f) Manufacturing sector.  
 (g) Percentages (weighted by respondents).

## Labour market tightness

The balance between supply and demand in the labour market — or the degree of labour market tightness — is another indicator of inflationary pressure.<sup>(1)</sup> Movements in the unemployment rate provide an indication of changes in labour market tightness. The claimant count measure of unemployment has ticked up for eight consecutive months, which points to some easing in labour market tightness. But a broader measure of unemployment from the *Labour Force Survey* — which takes account of all those looking for work, not just those claiming benefits — has been broadly flat over the same period.

Unemployment represents only a fraction of the total number of people not currently working. Of the 9.3 million people of working age without a job in the three months to August, less than a sixth were classified as unemployed. The majority were 'economically inactive' — people who are not looking for a job or are unavailable to start work, or both. A proportion of the economically inactive do subsequently become employed. And recently, there has been a rise in the number of inactive people who want to work (Chart 3.13). So this measure also suggests a moderate easing in labour market tightness.

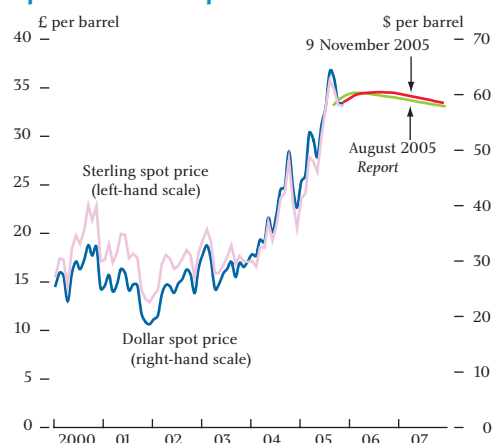
The degree of labour market tightness is likely to have been reduced by substantial net migrant flows (Section 3.2). If people can move easily across borders to find work, then labour supply is potentially much greater than the UK working-age population. And the ability of employers to move operations overseas opens up more possibilities. These factors may help to explain why the relationship between wage pressure and traditional measures of labour market tightness such as unemployment appears to have changed over the recent past.

Survey measures paint a more mixed picture of the degree of tightness in the labour market (Table 3.B). Surveys of staff availability from recruitment agencies suggest that the availability of temporary staff has stopped declining, while the availability of permanent staff, though still falling modestly, has done so at a slower pace. The BCC survey, which asks how difficult it is to recruit staff, points to an easing in the labour market. That picture is corroborated by reports from the Bank's regional Agents. But the *CBI Quarterly Industrial Trends Survey*, which asks if labour shortages are restraining output in the manufacturing sector, suggests a moderate tightening.

(1) See the box on pages 28–29 of the May 2005 *Report*.

Oil prices in early November were broadly in line with the high levels of three months earlier, despite substantial fluctuations within the period, and the futures curve was consistent with steady oil prices during the next few years. Survey and market-based measures of inflation expectations were little changed, and pay growth remained subdued. CPI inflation rose to 2.5% in September, its highest rate since the mid-1990s. But the MPC judges that CPI inflation is likely to ease over the next few months.

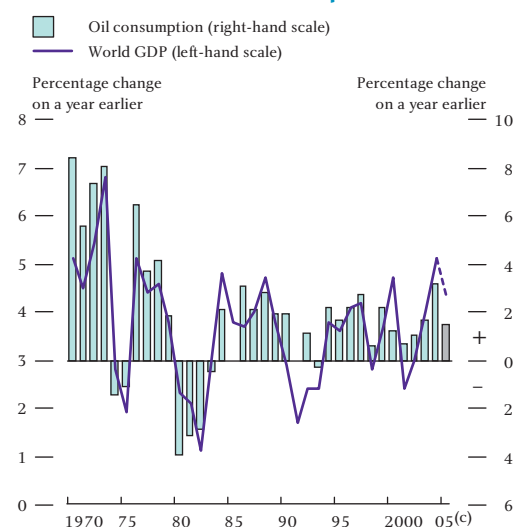
**Chart 4.1**  
Spot and futures prices of Brent crude oil<sup>(a)</sup>



Sources: Bank of England, Bloomberg and Thomson Financial Datastream.

(a) Futures prices and spot data for November are averages during the fifteen working days up to the time at which the MPC finalised its projections. Futures prices are expressed in dollars per barrel and shown on the right-hand scale.

**Chart 4.2**  
World GDP<sup>(a)</sup> and oil consumption<sup>(b)</sup>



Sources: BP Statistical Review of World Energy 2005, International Energy Agency and IMF World Economic Outlook Database September 2005.

(a) Volume measure, based on purchasing power parity.  
(b) Barrels of oil.  
(c) 2005 data are IMF and IEA forecasts for world GDP and oil consumption respectively.

## 4.1 Commodity prices

### Oil prices

The price of Brent crude oil averaged \$58 in the fifteen working days to 9 November. That was broadly in line with the fifteen-day average leading up to the August Report, despite a marked rise and subsequent fall within the period. But relative to early 2004, both dollar and sterling oil prices have roughly doubled (Chart 4.1).

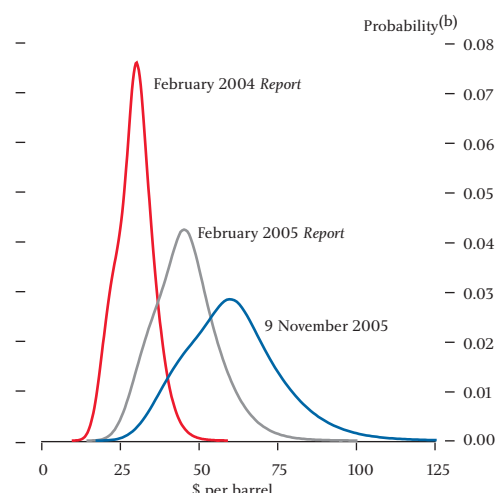
The elevated price of oil largely reflects the strength of global demand. Oil consumption has been closely related to economic growth in the past (Chart 4.2). And in 2004, oil consumption rose at one of the highest rates in recent decades, as the world economy expanded strongly. More recently, oil consumption growth has eased, driven by less rapid growth in US and Chinese oil demand. But relative to supply, which has been disrupted by events such as Hurricane Katrina, demand has remained high.

In early November, the futures curve pointed to the oil spot price remaining around current levels over the next few years. But prospects are particularly uncertain. With limited spare production and refining capacity, prices are likely to be sensitive to any further supply disruptions or changes in OPEC policy. According to illustrative estimates derived from options prices,<sup>(1)</sup> market participants assess there to be a one in four chance of the oil price being \$10 higher (or equally \$10 lower) in six months' time. At the time of the February 2004 Report, prior to the marked rise in oil prices, the probability of a \$10 rise was judged at less than one in fifty (Chart 4.3).

(1) This calculation assumes that investors are risk-neutral. For more details, see Clews, R, Panigirtzoglou, N and Proudman, J (2000), 'Recent developments in extracting information from options markets', *Bank of England Quarterly Bulletin*, February, pages 50–60.



**Chart 4.3**  
**Market beliefs about oil prices six months ahead<sup>(a)</sup>**



Sources: Bank of England, Bloomberg and New York Mercantile Exchange.

- (a) Data refer to the price of West Texas Intermediate crude oil.  
 (b) Each curve is a probability density function, the area under which sums to one. The area under the curve between two points indicates the inferred probability that market participants attach to oil prices being between two different levels. See footnote 1 on page 23 for further details.

**Table 4.A**  
**Measures of inflation expectations**

	2004	2005			
		Q1	Q2	Q3	Q4
<i>Financial markets (inflation swaps)<sup>(a)</sup></i>					
RPI inflation expectation, two years ahead	n.a.	2.6	2.6	2.6	2.7
RPI inflation expectation, three years ahead	n.a.	2.7	2.6	2.6	2.7
<i>Financial markets (nominal less index-linked gilts)<sup>(a)</sup></i>					
RPI inflation expectation, four years ahead	2.8	2.7	2.6	2.6	2.7
<i>External forecasters (Bank of England)<sup>(b)</sup></i>					
Mean CPI inflation expectation, 2006 Q4	n.a.	1.9	1.9	1.9	1.9
Mean CPI inflation expectation, 2007 Q4	n.a.	n.a.	n.a.	n.a.	2.0
<i>General public (Bank of England/NOP)<sup>(c)</sup></i>					
Median expectation over next twelve months <sup>(d)</sup>	2.4	2.2	2.0	2.2	n.a.

Sources: Bank of England, Bloomberg and NOP.

- (a) Averages of daily data. Q4 figure is average to 9 November.  
 (b) Survey results are published each quarter in the *Inflation Report*.  
 (c) The survey takes place in February, May, August and November each year.  
 (d) The question asks: 'How much would you expect prices in the shops generally to change over the next twelve months?'. The 2004 figure is an average of the quarterly surveys.

## Gas prices

In the United Kingdom, gas consumption is equivalent to around 1% of GDP. This means that gas is of similar importance to oil in the UK economy. And, like oil, the price of gas has risen markedly. In October, the price of natural gas traded on the International Petroleum Exchange was around 25% higher than a year earlier, and some 75% higher than two years ago. UK wholesale prices have also moved higher.

The rises in oil and gas prices are related. Some gas contracts are still linked to the price of oil. And to the extent that oil price rises have been driven by increased energy demand, that should have affected the price of gas too. As with oil, gas futures contracts are consistent with prices remaining high over the next few years.

## 4.2 Inflation expectations and labour costs

Inflation expectations influence the prices that companies set and the outcome of wage bargaining between employers and employees. So price movements that disturb those expectations can have important implications for future inflation prospects. In the light of rises in oil prices and CPI inflation over the past year (Section 4.4), this section examines the stability of inflation expectations and the prospects for labour costs.

### Inflation expectations

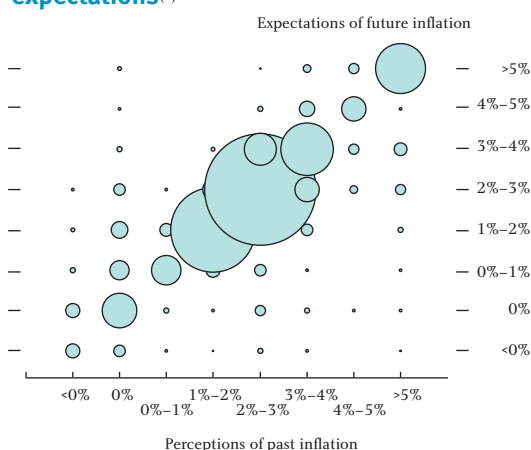
One way of gauging expectations about future inflation is to examine data from financial markets. For example, the difference between nominal yields on conventional government bonds and real yields on index-linked government bonds gives an indication of financial market expectations of RPI inflation years ahead. And inflation swaps provide a read on financial market views about the nearer term. Both measures suggest that any recent movements in inflation expectations have been small (Table 4.A).<sup>(1)</sup>

But market-based measures may not always provide a good guide to expected inflation. They can be affected by risk premia and factors unrelated to market participants' views about future inflation. And even when they do provide a good guide, the views of financial market participants may not correspond to the expectations of those directly involved in setting wages and prices.

External forecasters provide an alternative barometer. Like market participants, they often have financial incentives to construct accurate forecasts and so are likely to be well

(1) For details on how these measures are calculated, see the box on pages 124–25 of the Summer 2004 *Bank of England Quarterly Bulletin*.

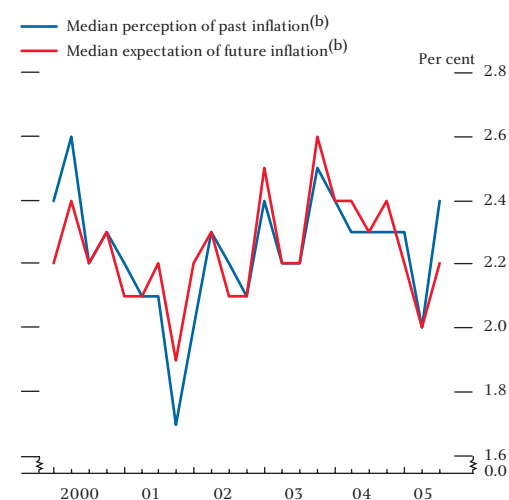
**Chart 4.4**  
Distribution of inflation perceptions and expectations<sup>(a)</sup>



Source: Bank of England/NOP.

(a) August 2005 survey. Survey respondents are asked how prices have changed over the past twelve months, and how they expect prices in the shops generally to change over the next twelve months. The size of each dot corresponds to the number of respondents holding each view.

**Chart 4.5**  
Perceptions of past inflation and expectations of future inflation<sup>(a)</sup>



Source and footnote (a): see Chart 4.4.

(b) To calculate the median, responses are assumed to be evenly distributed within bands.

informed. Unlike market participants, their expectations are directly available and hence impervious to some of the distortions that hinder interpretation of market-based measures. Most external forecasters expect CPI inflation to be close to the 2% target over the next year or two (Table 4.A).

An indication of the wider population's views is provided by household surveys, such as that conducted by the NOP on behalf of the Bank of England. According to the August Bank/NOP poll, the typical household expected inflation over the next twelve months to be broadly in line with expectations reported during the past year. The survey does not canvass expectations further than twelve months ahead. And it does not necessarily indicate the opinions of those setting wages and prices. But, at the very least, the near-term picture is broadly consistent with other evidence of relatively stable inflation expectations.

The Bank/NOP survey also reveals a diverse range of views. In August, a quarter of respondents expected inflation to be 1% or less in the coming year, while an even larger proportion expected prices to rise by 3% or more (Chart 4.4). This wide distribution could indicate that inflation expectations may not be as strongly anchored to the inflation target as often supposed.

Instead, it is possible that the expectations of some households have been formed on the basis of their perceptions of inflation in the recent past. And the individual responses in the latest Bank/NOP survey provide some evidence that this may be the case. Chart 4.4 shows the relationship between each household's perception of past inflation and expectation of future inflation, with the size of each dot corresponding to the number of households holding each view. In the survey, respondents are asked to select from inflation bands that typically cover 1 percentage point, so some changes in individuals' perceptions and expectations will be obscured. But for half of the respondents, inflation over the next twelve months was expected to be in exactly the same range as their perception of past inflation. Of the other respondents, only a very small proportion thought inflation would be markedly different in the future than it was in the past.

This correspondence between perceptions of the past and expectations of the future has been a feature of the Bank/NOP survey since its inception (Chart 4.5). And it raises the possibility that inflation expectations might increase if households perceive actual inflation to have risen.

Overall, there is little evidence that inflation expectations have shifted following the rise in oil prices and the pickup

**Table 4.B**  
**Private sector labour costs**

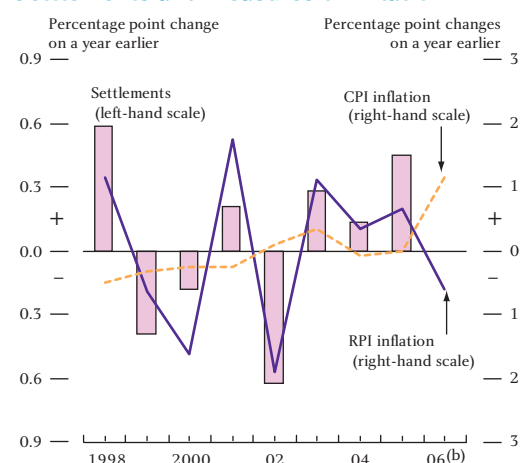
Percentage changes on a year earlier

	Average <sup>(a)</sup>	2004 <sup>(b)</sup> 2005					
		Q1	Q2	July <sup>(c)</sup>	Aug. <sup>(c)</sup>	Sep. <sup>(c)</sup>	
(1) Pay settlements	3.3	3.3	3.4	3.7	3.7	3.8	
(2) Regular pay	4.2	4.2	3.9	3.8	3.8	3.9	n.a.
(2)–(1) Pay drift <sup>(d)</sup>	1.0	0.9	0.5	0.1	0.1	0.1	n.a.
(3) Average earnings	4.4	4.2	4.6	3.7	3.9	4.1	n.a.
(3)–(2) Bonus contribution <sup>(d)</sup>	0.1	0.0	0.7	-0.1	0.1	0.2	n.a.

Sources: Bank of England's wage settlements database (which draws on information from the Bank's regional Agents, Incomes Data Services, Industrial Relations Services and the Labour Research Department) and ONS.

- (a) Between 1998 and 2004.  
(b) Averages of monthly data.  
(c) Three-month average.  
(d) Percentage points.

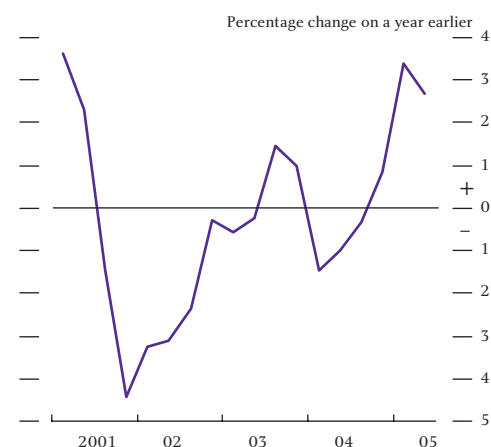
**Chart 4.6**  
**Settlements and measures of inflation<sup>(a)</sup>**



Sources: See Table 4.B.

- (a) Changes on a year earlier, based on private sector settlements in the first four months of each year (accounting for around half of all settlements) and the average annual inflation rate in the final four months of the preceding year.  
(b) Based on CPI and RPI inflation in September 2005.

**Chart 4.7**  
**Import prices<sup>(a)</sup>**



(a) Goods and services.

in CPI inflation over the past year. But it is unclear how well-anchored those expectations are. And none of the measures provide a reliable guide to what matters most for inflation prospects: the expectations of those directly involved in the setting of wages and prices. The stability of those expectations may be clearer from developments in the labour market, the subject of the next section.

## Labour costs

A key indicator of inflationary pressures in the labour market is private sector regular pay. That excludes public sector pay (which directly affects the production costs of only a limited number of goods and services in the CPI basket) and bonuses (which are volatile and can thus disguise underlying trends). In the three months to August, annual growth in private sector regular pay was 3.9% — less than the average of recent years (Table 4.B).

The subdued pace of regular pay growth is likely to reflect demand conditions. But supply factors may also have been important. As discussed in Section 3, higher levels of net migration have boosted labour supply and eased the degree of tightness in the labour market over the recent past.

Looking ahead, other factors could affect near-term prospects for pay. For example, employees might try to resist the reductions in real spending power caused by higher energy prices (see the box on page 19) and bargain for higher pay. That would be reflected in higher settlements, which typically take into account the cost of living. But even though inflation has picked up over the past year on the CPI measure, RPI inflation has eased during this period. And the RPI is still more commonly used as a benchmark in wage negotiations. That might help to restrain pay growth in the coming months (Chart 4.6).

## 4.3 Supply-chain costs and prices

Production costs affect the prices that companies charge along the supply chain and, ultimately, the prices of consumer goods and services.

### Import prices

Import prices are one source of supply-chain pressure on consumer prices. Since early 2004, import price inflation has increased markedly (Chart 4.7). Imported energy can directly account for a large part of that rise. But the prices of other imports have risen at an increasing rate too. For consumer goods, annual import price inflation was 0.5% in Q2, some 3 percentage points higher than a year earlier.

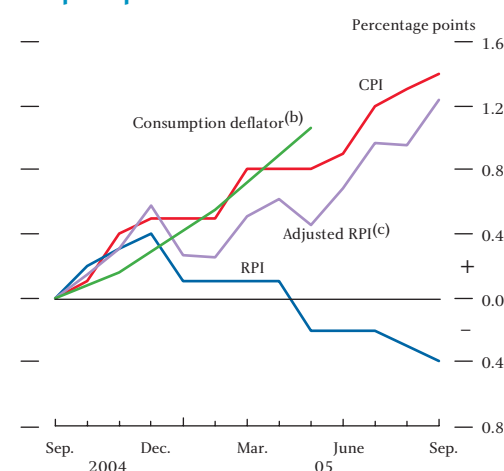
**Table 4.C**  
**Service sector costs and prices**

	Average <sup>(a)</sup>	2004	2005			
		Q4	Q1	Q2	Q3	Oct.
<b>Costs</b>						
<i>Percentage change on a year earlier</i>						
Unit wage costs <sup>(b)</sup>	2.2	1.3	2.6	2.7	n.a.	n.a.
<b>Index</b>						
CIPS <sup>(c)</sup>	56.9	61.7	58.8	57.5	58.6	59.2
<b>Prices</b>						
<i>Percentage change on a year earlier</i>						
Corporate services prices <sup>(d)</sup>	1.9	2.4	3.3	3.4	n.a.	n.a.
<b>Index</b>						
CIPS <sup>(c)</sup>	51.9	53.7	52.4	52.3	51.6	52.2

Sources: CIPS and ONS.

- (a) Between 1998 and 2004.  
(b) Defined as the level of average earnings (in the private service sector) divided by the level of output per Workforce job (in the service sector excluding public administration, defence and social security, education and health).  
(c) Quarterly and annual CIPS data are averages of monthly indices. A reading above/below 50 implies rising/falling costs or prices.  
(d) Non seasonally adjusted, net sector measure of the ONS Corporate Services Price Index.

**Chart 4.8**  
**The pickup in inflation<sup>(a)</sup>**



- (a) Cumulative rise in measures of annual inflation since September 2004. With the exception of the consumption deflator, the inflation measures are not seasonally adjusted.  
(b) Quarterly data. Excludes non-profit institutions serving households.  
(c) RPI minus the contributions of housing costs and the formula effect to the difference between RPI and CPI.

The increase in import price inflation does not appear to be related to exchange rate developments: the sterling ERI has moved within a relatively narrow band in recent years (Section 1). Some of the pickup can be explained by the higher foreign-currency export prices of the United Kingdom's major trading partners over the past two years, as the world economy has grown rapidly and cost pressures have risen. But UK companies have increasingly sourced goods from lower-cost countries, like China. That should have been putting downwards pressure on import prices. So the scale of the recent turnaround in UK import price inflation is perhaps surprising.

## Goods prices

In manufacturing, input prices have also risen sharply since early 2004, following increases in the prices of oil and, more recently, gas and electricity. In part, that has fed through to manufacturers' output prices. The annual rate of inflation rose by 0.4 percentage points in 2005 Q3, to 3.5%. But excluding petroleum products, annual output price inflation has eased since the beginning of the year.

## Services prices

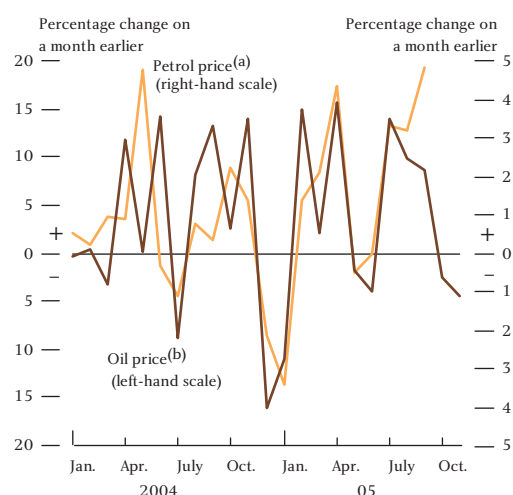
Evidence on supply-chain pressures in the service sector remains mixed. Labour is a major cost faced by the private service sector and, as productivity growth slowed, unit wage costs increased sharply in early 2005 (Table 4.C). According to the ONS experimental corporate services price index (CSPI), there has also been a sharp increase in the prices that businesses charge other businesses: the CSPI increased at its fastest annual rate for four years in 2005 Q2. But the CIPS survey points to diminishing supply-chain pressures from the service sector since late 2004.

## 4.4 Consumer prices

Annual CPI inflation rose to 2.5% in September. That was the highest rate since the mid-1990s and above the rate implied by the MPC's central projection in the *August Report*.

CPI inflation has risen by 1.4 percentage points since September 2004. That contrasts with RPI inflation, which has fallen over the same period from 3.1% to 2.7%. But a comparable RPI measure — adjusted to exclude the 'formula effect' and housing costs (see the box on page 29) — has also risen over the past year. And another measure of the prices faced by households, the National Accounts consumption deflator, paints a similar picture of rising inflation (Chart 4.8).

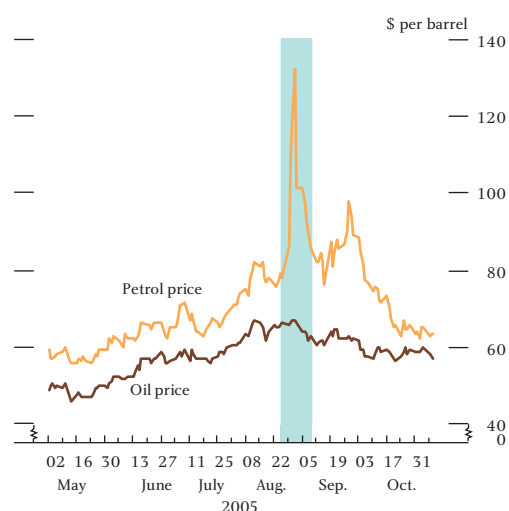
**Chart 4.9**  
**Oil and the retail price of petrol**



Sources: ONS and Thomson Financial Datastream.

- (a) Non seasonally adjusted.  
(b) Sterling spot price of Brent crude, shifted forward by one month.

**Chart 4.10**  
**Internationally traded oil and petrol prices<sup>(a)</sup>**



Sources: Bank of England, Bloomberg and Thomson Financial Datastream.

- (a) Daily prices of Brent crude oil and unleaded petrol traded at the New York Mercantile Exchange. The shaded area covers the days before and after Hurricane Katrina struck the US Gulf Coast (on 29 August).

## The rise in inflation

Some of the rise in inflation over the past year is likely to be related to the escalating price of energy, as discussed in the *August Report*. Higher oil prices feed through directly to the price of petrol. And oil and gas prices have an indirect effect on the prices of other goods and services, through their roles as inputs in production.

One way of gauging the quantitative impact of higher energy prices is to examine the importance of energy in production at the industry level. For an individual industry, that depends not only on how extensively it utilises oil and gas itself. If the industry's production process makes use of the goods and services of other sectors — at home or abroad — then the importance of oil and gas to those sectors matters too.

Taking both of these channels into account, the overall shares of oil and gas in each industry's costs can be estimated using official industry-level data (published by the ONS as the *United Kingdom Input-Output Analyses*). They indicate the impact on an industry's output prices of a rise in oil and gas prices after it has passed fully along the supply chain. And that information can be used to gauge the ultimate impact of a rise in energy prices on the price of consumer goods and services.

This approach suggests that, holding other factors fixed, a permanent rise in the price of oil and gas of 10% could raise the level of consumer prices by around 0.2%. That points to a sizable effect from the observed rise in energy prices over the past two years: an eventual impact on the level of consumer prices of 1.5% to 2%, on the assumption that other factors are again held fixed.

The short-run impact of higher oil and gas prices on consumer prices is less clear. Retail petrol prices tend to adjust quickly to changes in oil prices (Chart 4.9), but the degree to which they respond varies over time and can be sensitive to shocks to refining capacity. That was evident in the aftermath of Hurricane Katrina: as crude oil prices inched up, internationally traded petrol prices surged higher (see shaded area of Chart 4.10).<sup>(1)</sup>

Other prices tend to change more gradually than petrol prices, as increased costs make their way through the supply chain. Given the steady succession of energy price rises over the past two years, this suggests that the full impact on the level of consumer prices is yet to be felt. Again, however, the precise timing of these effects is uncertain.

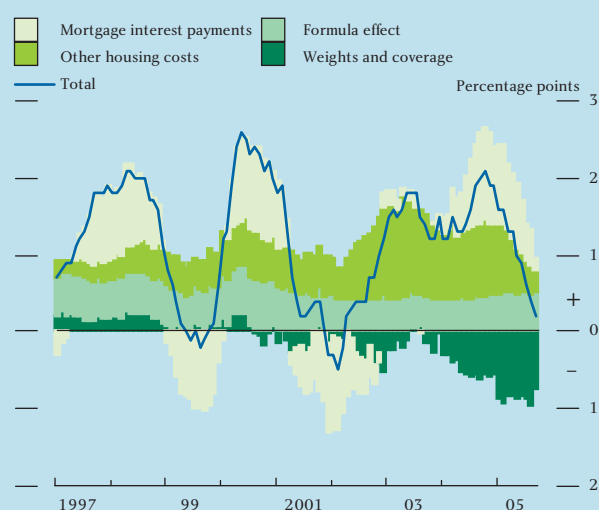
(1) For further details, see the box on pages 33–35 of October's edition of the ECB *Monthly Bulletin*.

## The wedge between RPI and CPI inflation

The Monetary Policy Committee targets CPI inflation. But it also monitors the information contained in other measures of inflation. Movements in RPI inflation can affect the prospects for pay, given that the RPI is still commonly used as a benchmark in wage negotiations (Section 4.2). And, in general, trends in different inflation measures can provide corroborative evidence about the degree of inflationary pressure in the economy.

Historically, RPI inflation has tended to be higher than CPI inflation — on average, by around  $\frac{3}{4}$  percentage points. But, over the past year, RPI inflation has eased while CPI inflation has risen. And the gap between the two measures has declined substantially (Chart A). This box examines what lies behind those movements.

**Chart A**  
Contributions to the wedge between annual RPI and CPI inflation<sup>(a)</sup>



(a) For further details on the calculation of these contributions, see Table 10 of the September ONS Consumer Price Indices release at: [www.statistics.gov.uk/pdfdir/cpi1005.pdf](http://www.statistics.gov.uk/pdfdir/cpi1005.pdf).

### Housing costs and the 'formula effect'

In the past, differences between RPI and CPI inflation have tended to reflect two factors. First, the measures employ different methods to aggregate data on the prices of individual items ('the formula effect'). Second, mortgage interest payments and other housing costs, such as housing depreciation, are included in the RPI but not the CPI.

The formula effect has typically been fairly stable over time. But changes in housing costs have often been marked, and have frequently been responsible for shifts in the wedge between RPI and CPI inflation. In 2004, rising interest rates and rapid house price inflation (which the ONS uses to measure housing depreciation) raised RPI inflation relative to CPI

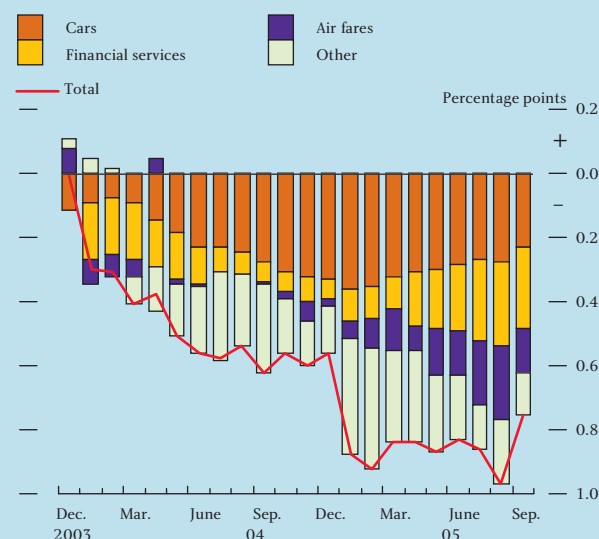
inflation. Then, as house price inflation fell back and interest rates plateaued, their contributions to RPI inflation diminished accordingly. In contrast with previous episodes, however, another factor has made a substantial contribution to recent movements in the wedge: weights and coverage.

### Weights and coverage

RPI and CPI inflation can also diverge because of differences in their weights and coverage. Their weights are based on different sources: the National Accounts for most of the items in the CPI basket, the Expenditure and Food Survey for the RPI. The CPI includes all private households, whereas the RPI excludes certain households (such as the highest 4% of earners and pensioners largely dependent on benefits). And some components are included in one index, but not the other.

In the past, these differences have tended to have only limited implications for the wedge between RPI and CPI inflation. But recently, the weights and coverage of a small number of individual items have had a pronounced impact.

**Chart B**  
Contribution of weights and coverage to the wedge between annual RPI and CPI inflation



New cars are included in the CPI basket, but are proxied by used cars for the RPI measure. The ONS estimates that, in contrast to the prices of new cars, used car prices have fallen markedly over the past year or two. So car prices have tended to make less of a contribution to RPI inflation than CPI inflation. The prices of financial services and air fares are included in both the RPI and the CPI. But they have a much smaller weight in the RPI basket than in CPI.



According to the ONS, air fares and financial services prices have risen sharply this year. And that has tended to boost RPI inflation less than CPI inflation.

Chart B shows that these three items — cars, financial services and air fares — can account for much of the weights and coverage contribution to the wedge since late 2003.

### Prospects for the wedge

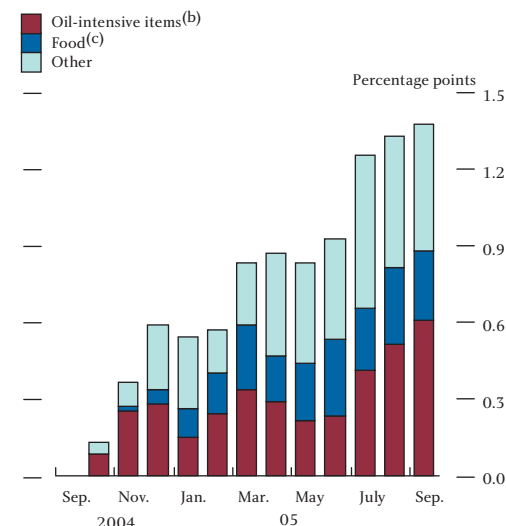
Looking ahead, the evolution of the wedge between RPI and CPI inflation depends upon the three factors discussed above. The formula effect has been fairly stable in the past, and might be expected to remain so in the future. The contribution of housing costs depends in part on prospects for the housing market.

Although that is particularly uncertain in the short run, house price inflation (and hence the housing depreciation element of RPI) would be expected to grow at a rate close to growth in earnings over a longer horizon. The contribution of differences in weights and coverage is rather less clear, however.

Some of the contribution to the wedge from differences in weights and coverage could unwind. For example, used car prices cannot fall indefinitely, and so the impact of car prices on the wedge should diminish at some point. But it is not clear that the negative contribution of differences in weights and coverage will completely disappear in the future. That raises the possibility that the average gap between RPI and CPI inflation might be smaller in the future than it has been in the past.

**Chart 4.11**

### Contributions to the pickup in CPI inflation<sup>(a)</sup>



(a) Contributions to the cumulative rise in annual (non seasonally adjusted) CPI inflation since September 2004.

(b) Utilities, petrol and transport services. These are the most oil-intensive items in the CPI basket, as discussed on page 32 of the August Report.

(c) Includes non-alcoholic beverages.

Overall, higher energy prices can account for a significant part of the rise in CPI inflation over the past year. But it seems likely that other factors have played a role, too. Food prices have recovered from the weather-related falls of a year ago (Chart 4.11). Non-fuel import prices have risen, following the declines of recent years. And part of the rise in inflation was probably a lagged response to the pressure of demand on supply in 2003 and 2004, as discussed in the August Report. These explanations seem broadly consistent with the pattern of CPI inflation over the past year.

### The short-term outlook for consumer price inflation

Looking ahead, household gas and electricity prices are expected to rise in the coming months. The level of CPI should be further affected by the indirect impact of higher input prices on the costs of producing a wide range of other goods and services. But in the absence of further rises in oil and gas prices, their impact on the annual rate of inflation should diminish over time. And easing demand pressures over the recent past and in the near term may also cause inflation to slow. Overall, the MPC judges that CPI inflation is likely to ease over the next few months.



*In the MPC's central projection, assuming that official interest rates follow a path implied by market yields, the four-quarter growth rate of GDP remains below trend in the near term. Further ahead, GDP growth gradually regains momentum as domestic demand recovers. Compared with the August projection, the outlook for GDP growth is a little weaker for the first part of the forecast period. The central projection for CPI inflation remains above the 2% target in the near term, but then dips below target as the contribution from higher energy prices diminishes. As GDP growth picks up and spare capacity is eroded, CPI inflation rises back to target at the end of the second year, and remains close to it thereafter. Compared with August, the profile for inflation is a little lower. The main risks around the central projection relate to: the prospects for demand; the impact of higher energy prices and migration on the prospects for supply; the outlook for energy prices and their impact on inflation expectations; and the sources of the recent pickup in inflation. Overall, the risks are broadly balanced for both growth and inflation.*

## 5.1 The outlook for demand

Prospects for the key components of demand — consumer spending, business investment, government spending and net trade — are a central influence on the outlook for inflation. This section discusses those components in turn, and then outlines the Committee's assessment of the prospects for GDP growth.

### Consumer spending

Consumer spending has slowed sharply since the middle of 2004, according to official estimates. Those estimates may be revised, and the true slowdown in consumption growth may be less marked than implied by the current vintage of data. Nevertheless, it seems clear that consumer spending is growing at a significantly slower pace than in early 2004. As discussed in previous *Reports*, a number of factors have contributed to the loss of momentum in consumption.<sup>(1)</sup> These include the impact of past interest rate increases on the spending of more highly indebted households, a weakening in the growth of real post-tax labour income and the slowing of the housing market during 2004. In the near term, consumption growth is likely to remain subdued as these influences continue to cast a shadow over spending.

But the forces currently restraining consumption growth are likely to dissipate somewhat over the forecast period. The

(1) For example, see pages 39–40 of the May 2005 *Inflation Report*.

Committee's projection assumes that official interest rates follow the broadly flat path implied by market yields,<sup>(1)</sup> and so will not add to the costs of debt servicing. It is also likely that real post-tax labour income growth will recover moderately in the first part of the forecast period, in part reflecting a gradual pickup in earnings growth. In addition, there have been signs of a gentle recovery in the housing market, providing support to the pickup in consumer spending growth. Overall, the Committee's central view is for consumer spending growth to edge up towards its historical average.

There are several risks to the outlook for consumer spending. On the downside, consumers may choose to save more of their income than implied by the MPC's central projection because of concerns about household finances — for example, worries about the adequacy of retirement income or about high debt levels. On the upside, a sustained housing market recovery could bolster consumption growth by more than assumed in the Committee's central view.

### Business investment

Most business surveys suggest that there has been some weakening of investment intentions during the past year. That picture is corroborated by reports from the Bank's regional Agents. In part, the weakening of investment intentions may reflect the recent easing in capacity pressures (Section 3.3), which would tend to reduce the incentives for companies to invest. Weaker investment intentions may also reflect uncertainty about the near-term outlook for the economy in the face of sluggish consumer spending and higher energy prices. But strong profits and a low cost of capital should also help to underpin investment. The Committee's central expectation is for capital expenditure by companies to increase at a moderate pace: the economy is likely to gather momentum over the forecast period, which should encourage the corporate sector to increase spending.

### Government spending

In forming its projections, the Committee assumed that nominal government final demand will increase broadly in line with the plans outlined in the March 2005 Budget. These imply that government demand makes a material contribution to real GDP growth over the next three years.<sup>(2)</sup> That contribution picks up gently during the first year of the projection, and eases back towards the end of the forecast period.

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(1) See the box on page 35 for a discussion of the asset price assumptions underpinning the Committee's projections.

(2) See the box on pages 24–25 of the May 2004 *Inflation Report* for a discussion of how the Committee assesses the impact of government demand on inflation.

## External demand and UK net trade

The outlook for UK net trade is heavily influenced by prospects for the world economy. Since the beginning of 2004, oil prices have roughly doubled. Yet despite the sharp rise in oil prices, there has been only a mild slowing in world economic growth.

In the Committee's central view, growth in the euro area — the United Kingdom's largest export market — is assumed to edge up early in the forecast period. That reflects the improving outlook for the household and corporate sectors in the euro area. The United States, another major source of demand for UK exports, is projected to grow at a firm rate over the next three years. Japan's economy is likely to expand steadily during the forecast period, albeit less strongly than the high growth rates recorded in the first half of 2005. China's vigorous growth will probably continue. In addition, UK companies may benefit from increased demand from oil-exporting countries. Overall, world trade growth — weighted to reflect the importance of different countries for UK exports — is expected to remain close to its long-term average throughout the forecast period.

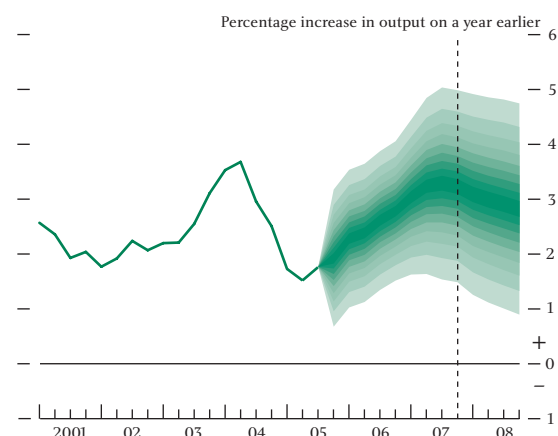
For many years, UK exporters have been losing market share to competitors overseas, in part reflecting a delayed response to the sharp rise in the sterling exchange rate in the mid-1990s. Over the forecast period, the market share of UK exporters is projected to continue falling, but at a diminished rate. That profile, combined with the firm outlook for world trade, means that export growth is likely to pick up over the medium term. That implies an increased contribution to GDP growth from net trade, compared with recent years.

The Committee's central view implies that the demand for UK exports remains relatively firm despite recent increases in energy prices. However, there is a risk that higher energy prices, and the possible policy response overseas, will have a greater dampening effect on world demand than assumed in the Committee's central view. That would represent a downside risk to the central projection for GDP growth in the United Kingdom.

There are also risks associated with the current low level of real long-term interest rates. As the Committee has noted on previous occasions, it is possible that these rates will rise sharply in the future.<sup>(1)</sup> The consequences for UK growth and inflation would depend upon the reason for the increase in real rates. But it is possible that a sharp rise in real rates

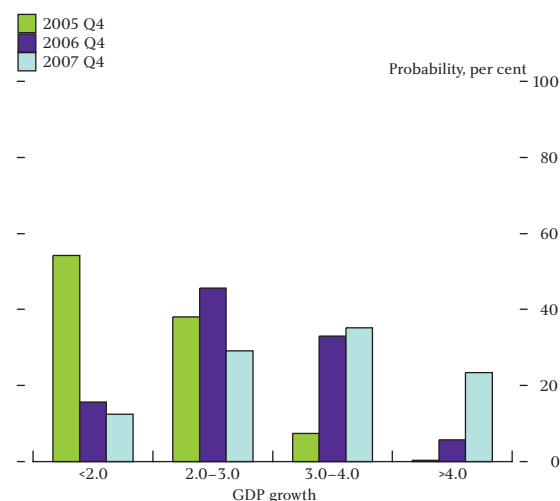
(1) See, for example, the box on page 7 of the May 2005 *Inflation Report*, or the minutes of the June 2005 meeting of the MPC.

**Chart 5.1**  
**Current GDP projection based on market**  
**interest rate expectations**



The fan chart depicts the probability of various outcomes for GDP growth in the future. If economic circumstances identical to today's were to prevail on 100 occasions, the MPC's best collective judgement is that GDP growth over the subsequent three years would lie within the darkest central band on only 10 of those occasions. The fan chart is constructed so that outturns of GDP growth are also expected to lie within each pair of the lighter green areas on 10 occasions. Consequently, GDP growth is expected to lie somewhere within the entire fan chart on 90 out of 100 occasions. The bands widen as the time horizon is extended, indicating the increasing uncertainty about outcomes. See the box on pages 48–49 of the May 2002 *Inflation Report* for a fuller description of the fan chart and what it represents. The dashed line is drawn at the two-year point.

**Chart 5.2**  
**The MPC's expectations for GDP growth based**  
**on market interest rate expectations<sup>(a)</sup>**



(a) These figures are derived from the same distribution as Chart 5.1. They represent the probabilities that the MPC assigns to GDP growth lying within a particular range at a specified time in the future.

would pose downside risks to a range of asset prices, and to demand both at home and abroad.

## The GDP projection

The Committee's projection for four-quarter GDP growth, assuming that official interest rates follow a path implied by market yields, is shown in Chart 5.1. The asset price assumptions underpinning the projection are described in the box on page 35.

The central projection in Chart 5.1 is for the four-quarter growth rate of GDP to remain below trend in the near term. That primarily reflects the sluggish short-term outlook for consumer spending. Further ahead, GDP growth regains momentum. That is driven by a gradual recovery in consumption growth, continued firm growth in government demand and an improving contribution from net trade. In the early part of the forecast period, stockbuilding also provides some upward impetus to growth. Towards the end of the forecast period, the pace of GDP growth slows a little, as the impetus from public spending wanes and consumption growth eases. Overall, the central projection for four-quarter GDP growth is a little weaker than in the August *Inflation Report* for the first part of the forecast period. In part, that reflects a more subdued outlook for consumption. In addition, as the market yield curve has risen since August, the Committee's projection is conditioned on a higher path for the official interest rate than it was three months ago.

There is a range of risks to the central projection for GDP growth. The prospects for consumption pose both upside and downside risks, and there is also a variety of risks related to world prospects. Overall, the Committee judges that the risks to GDP growth, relative to the central projection, are broadly balanced. Though this reflects the best collective judgement of the MPC, there is a range of views among individual members. In particular, some members believe that the balance of risks to GDP growth is weighted slightly more to the downside in the second half of the forecast period. The probabilities of various outcomes for GDP growth under the market interest rate assumption are set out in Chart 5.2.

## Asset price assumptions

The projections for GDP growth and CPI inflation described in Charts 5.1 and 5.3 are conditioned on a path for official interest rates implied by market yields (Table 1). That path provides a convenient benchmark assumption on which to condition the MPC's projections.<sup>(1)</sup>

**Table 1**  
**Expectations of the Bank's official interest rate implied by market yields<sup>(a)</sup>**

Per cent

November

2005	2006				2007				2008			
Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
4.5	4.4	4.4	4.4	4.5	4.5	4.5	4.6	4.6	4.6	4.6	4.6	4.6

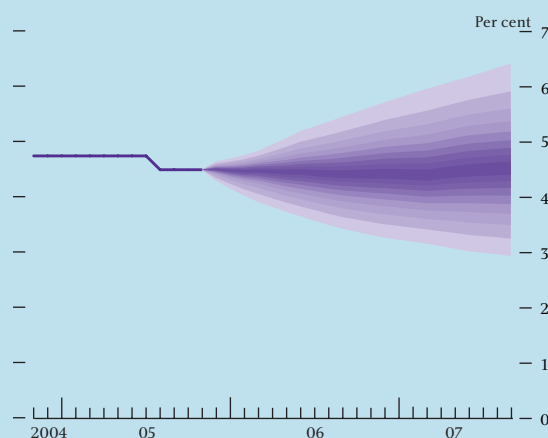
August

2005	2006				2007				2008			
Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
4.3	4.1	4.1	4.1	4.2	4.2	4.3	4.3	4.3	4.4	4.4	4.4	4.4

(a) The data are fifteen-day averages of one-day forward rates to 9 November 2005 and two-week forward rates to 3 August 2005 respectively. In previous *Reports*, the conditioning path for market yields was based on two-week forward rates. The move to presenting one-day forward rates follows the review of the Bank's operations in the sterling money markets; see the box on page 504 of the Autumn 2005 *Bank of England Quarterly Bulletin* for more details. The forward rates themselves have been derived from instruments that settle on the London interbank offered rate. That includes the market rates on futures, swaps, interbank loans and forward rate agreements, adjusted for credit risk. The MPC may change the way it estimates these expectations from time to time, as shifting market conditions can alter the relative advantages of using different methods.

On average, in the fifteen days leading up to the MPC's decision, the market yield curve implied that financial market participants expected the official interest rate to remain broadly unchanged over the forecast horizon. That is above the profile for the official rate expected in August, when markets were expecting rates to fall to around 4% in early 2006. Chart A uses information from options prices to provide an approximate indication of market participants' uncertainty, ahead of the MPC's decision on 10 November, about the future path of official interest

**Chart A**  
**Market beliefs about future interest rates**



The mean of the fan chart is the market rate profile for the fifteen-day average ending 9 November, consistent with the measure of interest rates shown in Table 1. The distribution is derived using the prices of options on three-month Libor futures contracts traded on LIFFE. It is constructed by averaging the daily distributions around a common mean for each of the fifteen days. The average is calculated for each probability band at each quarter. The fan chart depicts the probability of outcomes for interest rates in the future. It has a similar interpretation to the fan charts in the Overview and in this section of the *Report*. The chart is only indicative of market expectations because it is based on different, though related, instruments to the Bank's repo contracts, and is estimated on the assumption that investors are risk-neutral.

rates. The chart suggests that market participants believed a wide variety of outturns was possible.

The starting point for the sterling exchange rate index (ERI) in the MPC's projections for GDP growth and CPI inflation is 100.3, the average for the fifteen working days to 9 November. That was 1.7% above the starting point for the August forecast. Under the MPC's usual convention,<sup>(2)</sup> the exchange rate is assumed to depreciate to 98.7 by 2007 Q4, and is higher throughout the forecast period than assumed in August.

Equity prices are assumed to rise broadly in line with nominal GDP over the forecast period.

(1) See the box 'The interest rate assumptions in the projections', on pages 42–43 of the August 2004 *Inflation Report*.

(2) See the box 'The exchange rate in forecasting and policy analysis', on page 48 of the November 1999 *Inflation Report*.

## 5.2 The outlook for inflation

Prospects for demand are not the only determinant of the outlook for inflation. This section discusses other key influences — prospects for supply, the resulting balance between demand and supply, inflation expectations, energy prices and import prices — before turning to the Committee's assessment of the inflation outlook.

### Prospects for supply

The recent sharp rises in energy prices and the sizable net migrant flows into the United Kingdom may both have a

significant impact on supply prospects. As discussed in the box on page 19, there are a number of avenues by which higher energy prices could curb potential supply. The likely impact of energy prices on supply is impossible to identify with precision, but perhaps the quantitatively most important of the channels operates via the labour market: if workers succeed in obtaining higher pay to compensate for the higher energy prices, then employment growth may slow. As yet, wages have not reacted in this way and, in the Committee's central view, high energy prices are assumed to have relatively little adverse impact on future potential supply. But there is a risk that energy prices could curtail potential supply growth by more than assumed in the Committee's central case, representing an upside risk to inflation.

Official estimates of past population growth in the United Kingdom were recently revised upwards. Those revisions primarily reflected higher inward net migration. The Committee had previously taken note of reports from the Bank's regional Agents and other information identifying the increased use of migrant workers by businesses. So the revisions to official population estimates have not led the MPC to alter materially its assessment of past or current levels of potential supply.

Looking ahead, potential supply is likely to be bolstered by inward migration over the forecast period. However, there is considerable uncertainty about the magnitude of these flows. Moreover, migrants add not only to potential supply, but also to demand as they spend at least some of their wages on domestic goods and services.

### **Balance between demand and supply**

The pressures of demand on supply are reflected in the degree of spare capacity in the private sector and conditions in the labour market.

Official data suggest that output growth slowed markedly during 2004, and has remained subdued since. But business surveys and recorded employment data point to a less marked slowdown. The Committee places some weight on all these sources of information. There is, therefore, some uncertainty about the extent to which capacity pressures have eased. In the very near term, the outlook for GDP growth means that pressures on capacity may continue to diminish. Looking ahead, the Committee's central view is that output growth will regain momentum (Section 5.1), and that spare capacity will gradually be eroded. Given the easing in capacity pressures in the recent past, it is likely that companies will be able to meet much of the initial increase in demand with their existing



workforces rather than having to take on large numbers of new staff.

The labour market has loosened recently and, looking ahead, the Committee is anticipating a gentle increase in labour demand and a continued rise in labour supply. In the central projection, pay pressures remain well-contained over the forecast period.

### **Inflation expectations**

Inflation expectations influence the prices that companies set and the outcome of wage bargaining between employers and employees, and so are a key determinant of the outlook for inflation. For this reason, the Committee closely monitors measures of inflation expectations derived from both financial market prices and surveys. Following the increase in oil prices and CPI inflation over the past year, earnings growth has remained broadly constant, and to date there is little evidence of a rise in inflation expectations. But a rise in expectations could lead to upward pressure on wage settlements, as well as on prices more generally. That represents an upside risk to the Committee's inflation projection.

### **Energy prices**

As discussed above, higher energy prices can influence the inflation outlook by affecting prospects for demand and supply. But they also have a direct impact on consumer prices: they have an immediate effect on the retail price of petrol, and a delayed effect on the costs of producing other goods and services. CPI inflation rose from 1.1% in September 2004 to 2.5% in September 2005. Part of that pickup is attributable to higher energy prices. Looking ahead, the MPC's central view assumes that the spot oil price for Brent crude follows the futures curve, which is broadly flat over the next three years. This means that the impact of past steep rises in the oil price on the twelve-month rate of CPI inflation is expected to recede during the forecast period. But there are great uncertainties about the outlook for oil prices.

There is additional uncertainty about how much of the recent pickup in inflation relates to past rises in energy prices, and how much relates to other influences such as demand pressures or one-off factors (for example, the unwinding of the impact on inflation from low food prices in Summer 2004). As a result, there is also considerable uncertainty about the outlook for inflation, in part because it is not clear to what extent past rises in energy prices have yet to feed through the supply chain.

## Import prices

About one third of goods and services bought in the United Kingdom are imported. And so import prices can influence UK consumer price inflation, at least in the short to medium term.

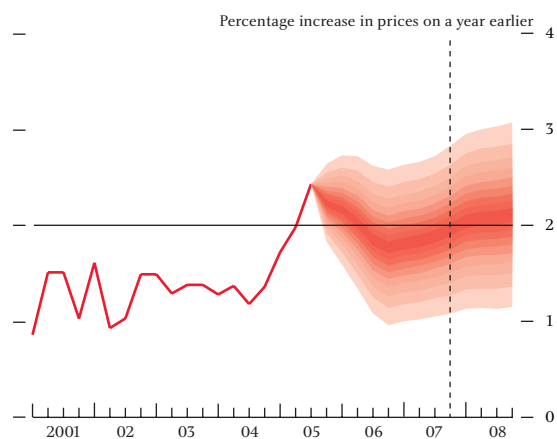
Import price inflation has risen sharply, in part reflecting energy price developments. That can account for some of the pickup in CPI inflation over the past year. In the MPC's central projection, import price inflation eases in the first part of the forecast period, reflecting a diminishing contribution from energy prices, and remains relatively subdued thereafter. The central projection assumes that low-cost imports from China and elsewhere push down on import price inflation throughout the forecast period. It also assumes that higher energy prices do not have a persistent impact on the inflation rates of the United Kingdom's main trading partners. There is considerable uncertainty surrounding both those judgements. It is therefore possible that import price inflation will rise by more than assumed in the central projection, representing an upside risk to the outlook for CPI inflation in the United Kingdom.

## The inflation projection

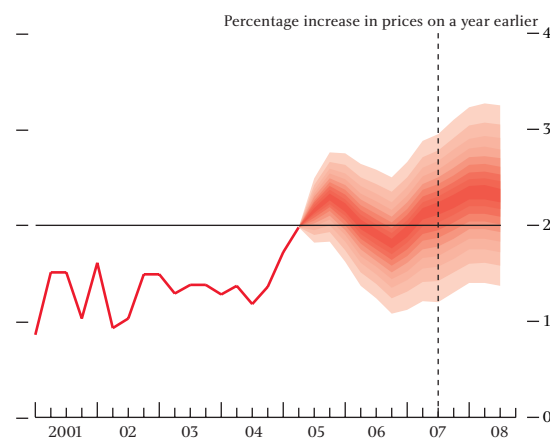
The Committee's projection for CPI inflation, assuming that official interest rates follow a path implied by market yields, is shown in Chart 5.3.

Under the central projection, inflation falls below the 2% target in the first year of the forecast, as the impact of past steep increases in the oil price drop out of the twelve-month

**Chart 5.3**  
Current CPI inflation projection based on market interest rate expectations

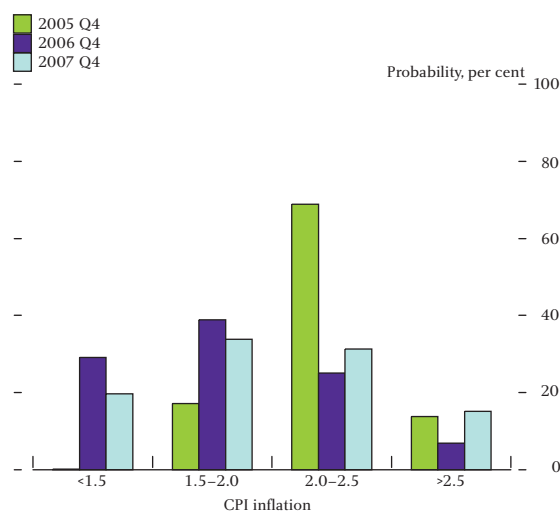


**Chart 5.4**  
CPI inflation projection in August based on market interest rate expectations



The fan charts depict the probability of various outcomes for CPI inflation in the future. If economic circumstances identical to today's were to prevail on 100 occasions, the MPC's best collective judgement is that inflation over the subsequent three years would lie within the darkest central band on only 10 of those occasions. The fan charts are constructed so that outturns of inflation are also expected to lie within each pair of the lighter red areas on 10 occasions. Consequently, inflation is expected to lie somewhere within the entire fan charts on 90 out of 100 occasions. The bands widen as the time horizon is extended, indicating the increasing uncertainty about outcomes. See the box on pages 48–49 of the May 2002 *Inflation Report* for a fuller description of the fan chart and what it represents. The dashed lines are drawn at the respective two-year points.

**Chart 5.5**  
The MPC's expectations for CPI inflation based on market interest rate expectations<sup>(a)</sup>

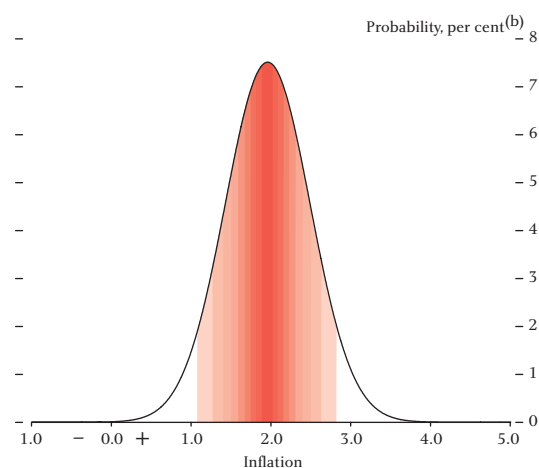


(a) These figures are derived from the same distribution as Chart 5.3. They represent the probabilities that the MPC assigns to CPI inflation lying within a particular range at a specified time in the future.

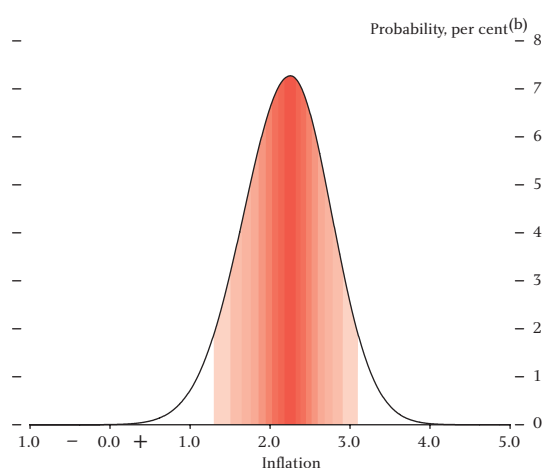
CPI inflation rate. In the near term, the recent easing in the pressures of demand on supply also pushes down on inflation. Further ahead, inflationary pressures build again as output regains momentum and spare capacity is eroded. CPI inflation picks up to around the 2% target at the two-year point, and remains close to it thereafter. Compared with August, the central projection is a little lower. That is primarily because the pressures of demand on supply are a little weaker than in the previous *Report*, and because the assumed exchange rate profile is slightly higher.<sup>(1)</sup>

The Committee judges that the risks to CPI inflation, relative to the central projection, are balanced. Though this reflects the best collective judgement of the MPC, there is a range of views among individual MPC members. The main risks around the central projection relate to: the prospects for demand; the impact of higher energy prices and migration on the prospects for supply; the outlook for energy prices and their impact on inflation expectations; and the sources of the recent pickup in inflation. The short-term outlook for CPI inflation is particularly uncertain as it is unclear precisely how much of the recent rise in energy prices has yet to pass through the supply chain. The fan chart has been widened to reflect this. The probabilities of various outcomes for CPI inflation are set out in Chart 5.5. The overall balance of risks to the inflation outlook at the two-year point is shown in Chart 5.6, alongside the corresponding balance in August (Chart 5.7).

**Chart 5.6**  
Current projection for CPI inflation in 2007 Q4<sup>(a)</sup> based on market interest rate expectations



**Chart 5.7**  
August projection for CPI inflation in 2007 Q4<sup>(a)</sup> based on market interest rate expectations

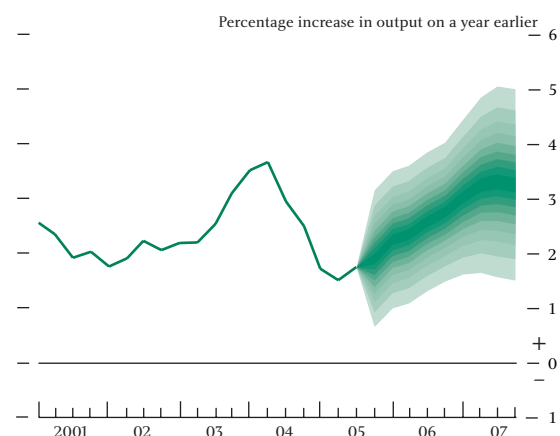


(a) These charts represent a cross-section of the respective fan charts in 2007 Q4 for the market interest rate projections. The coloured bands have a similar interpretation to those on the fan charts. The fan chart widens as the time horizon is extended. 2007 Q4 is nearer to the starting point in the current projection than it was in August so, for a given degree of uncertainty and balance of risks, the spread of possible outcomes in that quarter would tend to be narrower in Chart 5.6 than in Chart 5.7.

(b) Probability of inflation being within  $\pm 0.05$  percentage points of any given inflation rate, specified to one decimal place. For example, the probability of inflation being 2.0% (between 1.95% and 2.05%) in the current projection is around 7%.

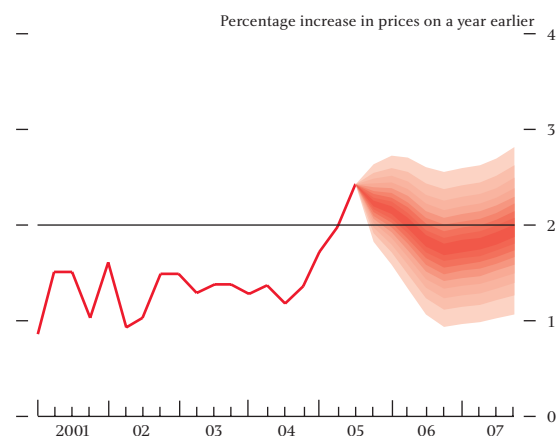
(1) See the box on page 35.

**Chart 5.8**  
Current GDP projection based on constant nominal interest rates at 4.5%



See footnote to Chart 5.1.

**Chart 5.9**  
Current CPI inflation projection based on constant nominal interest rates at 4.5%



See footnote to Charts 5.3 and 5.4.

## 5.3 Projection based on constant interest rates

The Committee's projections for GDP growth and CPI inflation conditioned on a constant interest rate at 4.5% are shown in Charts 5.8 and 5.9 respectively. These charts show projections only up to a two-year forecast horizon.<sup>(1)</sup> The projections are virtually identical to those based on market rates, reflecting the flat interest rate profile implied by the market yield curve.

## 5.4 The policy decision

At its November meeting, the Committee noted that output growth strengthened gradually under the central projection, while inflation was close to the target two years or so ahead. The Committee also noted the considerable uncertainty about the impact of higher energy prices on inflation, both in the recent past and in the immediate future. In the light of this outlook, and bearing in mind the balance of risks, the Committee judged that no change in the repo rate was necessary to keep inflation on track to meet the target in the medium term.

(1) The box on pages 42–43 of the August 2004 *Inflation Report* explains why the projections based on constant interest rates are only shown up to two years ahead.

## Other forecasters' expectations

In October, the Bank asked a sample of external forecasters for their latest projections of CPI inflation, output growth, interest rates and the sterling ERI. Overall, their views have changed little since the August *Report*.

**Table 1**  
**Average of other forecasters' projections of CPI inflation, GDP growth, interest rates and the ERI<sup>(a)</sup>**

	2005 Q2 <sup>(b)</sup>	2005 Q4	2006 Q4	2007 Q4
CPI inflation <sup>(c)</sup>	2.4	2.4	1.9	1.9
GDP growth <sup>(c)</sup>	1.6	1.7	2.3	2.5
Repo rate (per cent)	4.6	4.5	4.3	4.4
Sterling ERI <sup>(d)</sup>	99.9	99.4	97.7	96.8

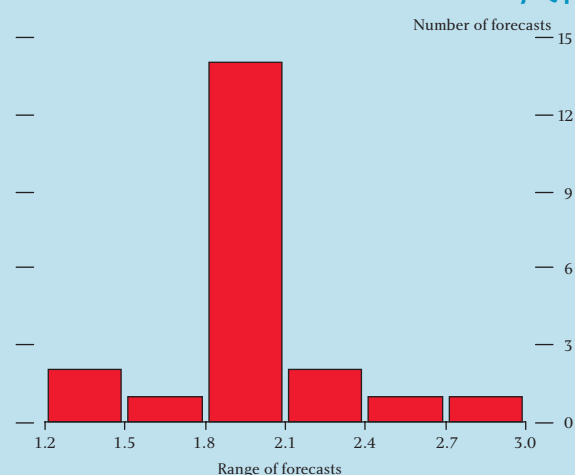
(New index: January 2005 = 100)

Sources: Bank of England, ONS and central projections of outside forecasters as of 7 November 2005.

- (a) For 2005 Q4 and 2006 Q4, 24 forecasters provided the Bank with forecasts for CPI inflation, GDP growth and the repo rate, and 19 gave ERI forecasts. For 2007 Q4, there were 21 forecasts for CPI inflation, GDP growth and the repo rate, and 17 for the ERI.
- (b) Outturns. GDP is the preliminary ONS estimate for chained volume GDP at market prices. The repo rate and sterling ERI are averages of daily values.
- (c) Percentage changes on a year earlier.
- (d) Where necessary, responses were adjusted to take account of the difference between the old and new ERI measures, based on the comparative outturns for 2005 Q2.

The average forecast was for CPI inflation to be just below the 2.0% target at the two-year horizon. Fourteen of the 21 forecasters expected inflation to be between 1.8% and 2.1% (Chart A). And, on average, the external forecasters saw a 59% probability of CPI inflation being at or below 2.0% in two years' time (Table 2).

**Chart A**  
**Distribution of CPI inflation forecasts for 2007 Q4**



Source: Central projections of 21 outside forecasters as of 7 November 2005.

The forecasters' average central projection was for four-quarter GDP growth to edge up from the preliminary outturn of 1.6% in 2005 Q3 to 1.7% in 2005 Q4, and gradually rise towards its long-run average further ahead (Table 1). In their view, there was a greater chance that GDP growth would be

**Table 2**  
**Other forecasters' probability distributions for prospective CPI inflation and GDP growth<sup>(a)</sup>**

### CPI inflation

Probability, per cent <sup>(b)</sup>	Range:					
	Less than 1.0%	1.0% to 1.5%	1.5% to 2.0%	2.0% to 2.5%	2.5% to 3.0%	More than 3.0%
2005 Q4	0	2	12	52	28	6
2006 Q4	2	14	36	30	12	5
2007 Q4 <sup>(c)</sup>	5	16	37	25	11	5

### GDP growth

Probability, per cent <sup>(b)</sup>	Range:			
	Less than 1%	1% to 2%	2% to 3%	More than 3%
2005 Q4	7	67	25	2
2006 Q4	8	33	46	13
2007 Q4 <sup>(c)</sup>	8	30	48	15

Source: Projections of outside forecasters as of 7 November 2005.

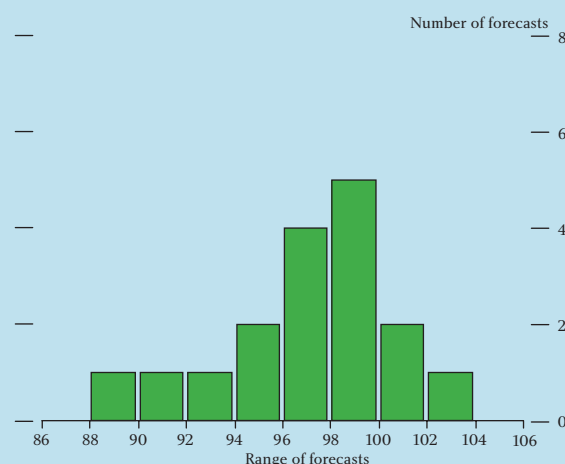
- (a) 24 forecasters provided the Bank with their assessment of the likelihood of expected twelve-month CPI inflation and four-quarter output growth falling in the ranges shown above. For example, on average forecasters assigned a probability of 59% to CPI inflation turning out to be 2.0% or less in 2007 Q4.
- (b) Figures may not sum to 100 due to rounding.
- (c) 21 forecasters.

below 2.0% than above 3.0% during the next two years (Table 2).

The average forecast for the official interest rate was consistent with a cut in 2006, which would then be reversed in 2007 (Table 1).

The external forecasters also expected the sterling ERI to fall gently over the next two years, on average reaching 96.8 by 2007 Q4 (Table 1). That is lower than the profile assumed by the MPC in its central projection. But Chart B shows that the range of views is diverse.

**Chart B**  
**Distribution of sterling ERI forecasts for 2007 Q4<sup>(a)</sup>**



Source: Central projections of 17 outside forecasters as of 7 November 2005.

- (a) Where forecasts were provided for the old ERI measure, they have been adjusted to correspond to the new index.

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(a) PowerPoint™ versions of the charts in this *Report* and the data underlying most of the charts are provided at [www.bankofengland.co.uk/publications/inflationreport/2005.htm](http://www.bankofengland.co.uk/publications/inflationreport/2005.htm).



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## **Text of Bank of England press notice of 8 September 2005**

### **Bank of England maintains interest rates at 4.5%**

The Bank of England's Monetary Policy Committee today voted to maintain the Bank's repo rate at 4.5%.

The minutes of the meeting will be published at 9.30 am on Wednesday 21 September.

## **Text of Bank of England press notice of 6 October 2005**

### **Bank of England maintains interest rates at 4.5%**

The Bank of England's Monetary Policy Committee today voted to maintain the Bank's repo rate at 4.5%.

The minutes of the meeting will be published at 9.30 am on Wednesday 19 October.

## **Text of Bank of England press notice of 10 November 2005**

### **Bank of England maintains interest rates at 4.5%**

The Bank of England's Monetary Policy Committee today voted to maintain the Bank's repo rate at 4.5%.

The Committee's latest inflation and output projections will appear in the *Inflation Report* to be published on Wednesday 16 November.

The minutes of the meeting will be published at 9.30 am on Wednesday 23 November.

## Glossary and other information

### Glossary of selected data

**CPI inflation:** inflation measured by the consumer prices index.

**CSPI:** corporate services price index.

**ERI:** exchange rate index.

**GDP:** gross domestic product.

**LFS:** Labour Force Survey.

**Libor:** London interbank offered rate.

**LIFFE:** London International Financial Futures and Options Exchange.

**M4:** UK non-bank, non-building society private sector's holdings of sterling notes and coin, and their sterling deposits (including certificates of deposit, holdings of commercial paper and other short-term instruments and claims arising from repos) held at UK banks and building societies.

**RPI inflation:** inflation measured by the retail prices index.

### Abbreviations

**A8 countries:** the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia and Slovenia.

**BCC:** British Chambers of Commerce.

**BP:** British Petroleum.

**BRC:** British Retail Consortium.

**CBI:** Confederation of British Industry.

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

**ECB:** European Central Bank.

**EU:** European Union.

**FTSE:** Financial Times Stock Exchange.

**GAD:** Government Actuary's Department.

**GfK:** Gesellschaft für Konsumforschung, Great Britain Ltd.

**HBF:** Home Builders Federation.

**IMF:** International Monetary Fund.

**MPC:** Monetary Policy Committee.

**OLS:** ordinary least squares.

**ONS:** Office for National Statistics.

**OPEC:** Organization of the Petroleum Exporting Countries.

**PNFCs:** private non-financial corporations.

**REC:** Recruitment and Employment Confederation.

**RICS:** Royal Institution of Chartered Surveyors.

**VAT:** value added tax.

### Symbols and conventions

Except where otherwise stated, the source of the data used in charts and tables is the Bank of England or the Office for National Statistics (ONS) and all data, apart from financial markets data, are seasonally adjusted.

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.