

# Inflation Report

February 2007



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/2007.htm](http://www.bankofengland.co.uk/publications/inflationreport/2007.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/2007.htm](http://www.bankofengland.co.uk/publications/inflationreport/2007.htm).



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# Overview

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Over the past quarter, solid output growth was maintained in the United Kingdom. Market interest rates rose, sterling appreciated and asset prices remained buoyant. The underlying trend in household spending appeared firm, while the upturn in business investment was sustained. The world economy expanded briskly. In the Committee's central projection, assuming that Bank Rate follows a path implied by market yields, GDP continues to grow at a rate close to its average over the past decade.

The margin of spare capacity within businesses appeared limited and unemployment flattened off. The pressure on businesses' energy and import costs abated, but early indications point to a modest increase in pay growth. There are signs that businesses are more confident in their ability to raise prices. CPI inflation picked up to 3.0% in December. In the central projection, inflation remains above target in the near term and then falls back, settling around the 2% target over the medium term. The risks to growth are balanced, while those to inflation are weighted to the downside in the near term and to the upside further out.

## Financial markets

Market interest rates have increased since the November *Report*, prompted in part by the MPC's decision in January to raise Bank Rate by a quarter of a percentage point. Market interest rates also rose in the euro area and the United States in the wake of generally upbeat data releases, though by rather less than in the United Kingdom. The sterling effective exchange rate continued to appreciate, reflecting in part those movements in interest rates. Since last spring, the effective exchange rate for sterling has risen by around 9%.

Over the past few years, the prices of a wide range of assets have risen substantially at home and abroad. That reflects a combination of optimism about future prospects, historically low long-term interest rates and a compression in risk premia, perhaps associated with rapid growth in global money and credit. This buoyancy in asset prices has boosted consumer spending and business investment, by raising household wealth and lowering the cost of finance respectively.

## Domestic demand

Consumers' expenditure slowed in 2006 Q3 after growing strongly in the previous quarter. But taking the two quarters together, spending growth was broadly in line with its long-run average rate. And indicators of retail sales and reports from

the Bank's regional Agents point to strong household spending growth in the fourth quarter. Looking ahead, a recovery in real household labour income growth should support continued steady expansion in household expenditure.

The *Pre-Budget Report* contained only modest news about the path of government spending. The public sector is expected to make a firm, but gradually declining, contribution to nominal demand growth over the forecast period.

The recovery in business investment was maintained, supported by a high rate of return on capital and continued falls in the relative price of capital goods. Measures of investment intentions point to continued robust growth in the near term.

## Overseas trade

The world economy continued to expand briskly. Euro-area GDP growth dipped in Q3, but business surveys suggest that the underlying pace of expansion remains firm. In the United States, growth picked up at the end of the year, suggesting that the earlier modest slowdown will prove short-lived. Although official estimates indicated subdued output growth in Japan in the middle of last year, business surveys point to continued recovery. And the expansion in the rest of Asia remained vigorous. The Committee expects the pace of global growth to remain brisk.

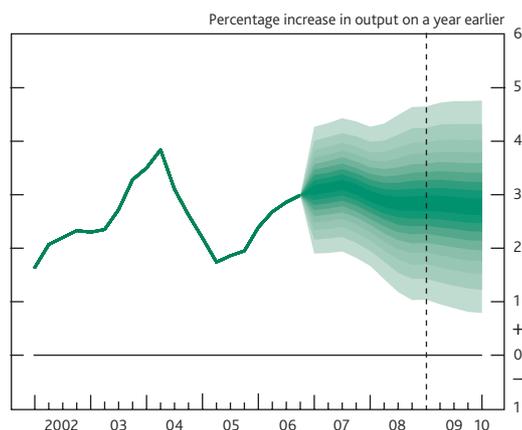
Official estimates suggest that net trade made a broadly neutral contribution to UK GDP growth in the third quarter. Both exports and imports fell, though there is considerable uncertainty about the true picture because of distortions resulting from fraudulent activity. Business surveys indicate that export orders remained healthy, despite the recent appreciation of sterling. But continued solid growth in domestic demand and falling import prices imply that import growth is likely to remain reasonably strong. Net trade is expected to drag slightly on output growth over the forecast period.

## The outlook for GDP growth

According to the ONS's provisional estimate, GDP increased by 0.8% in the fourth quarter, a little above its average rate over the past decade. Output growth in the service sector strengthened, though manufacturing activity was flat and the energy sector contracted. Business surveys point to further robust GDP growth in the first quarter of this year.

**Chart 1** shows the Committee's best collective judgement of the outlook for four-quarter GDP growth, assuming that Bank Rate follows market yields. The central projection is for output

**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 outcomes 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.

to expand at a rate close to its average over the past decade, underpinned by steady growth in household spending and buoyant business investment. Growth eases a little towards the end of the forecast period as public spending and household consumption slow. The profile is similar to that contained in the November *Report*.

## Costs and prices

Surveys and reports from the Bank's regional Agents indicate that spare capacity within businesses remains tight. And the unemployment rate appears to have flattened off after its recent rise, suggesting that an end to the period of labour market loosening is in sight. Taking the economy as a whole, the Committee judges that the margin of spare resources is relatively limited.

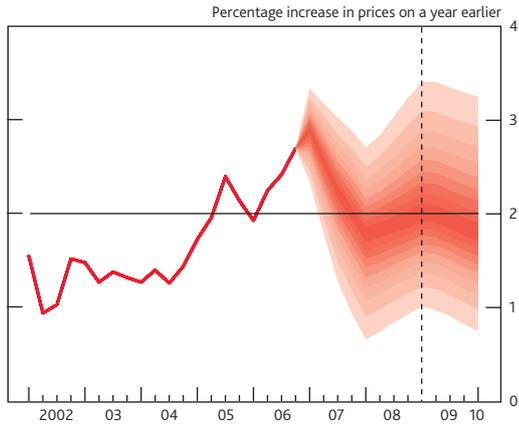
Wage cost pressures appear to have increased a little. Contacts of the Bank's regional Agents expect modestly higher pay growth this year than last. That could be related to the recent pickup in inflation.

Energy and import price inflation have declined further since the November *Report*. Spot oil prices fell on account of unseasonably warm winter weather in the northern hemisphere and higher-than-expected stock levels. And wholesale gas prices fell further. Annual imported goods price inflation eased, and is likely to continue to do so in the coming year, reflecting falls in energy prices and the recent appreciation of sterling. The overall easing in non-wage cost pressures, in conjunction with robust demand growth, should facilitate some further rebuilding of corporate profit margins. And surveys suggest that businesses are also more confident in their ability to pass through price increases.

CPI inflation increased to 3.0% in December. During 2006, CPI inflation rose by more than 1 percentage point. In part, that is accounted for by the impact of higher gas and electricity prices and increased food costs. But it is difficult to be sure how much of the rise in overall inflation was the result of these cost shocks, as it depends upon how other costs and prices responded. It seems likely that the rising pressure of demand on resources has also contributed to the pickup in inflation. Notwithstanding the recent decline in energy prices and easing import price inflation, CPI inflation is likely to remain elevated in the near term, before falling back sharply as retail gas and electricity prices decline in contrast with the substantial rises that occurred a year earlier.

Inflation expectations are a key factor determining the outlook for inflation. Survey measures suggest that the public's short-term inflation expectations have moved up in the wake of the pickup in actual inflation. Long-term inflation expectations inferred from financial market instruments also

**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 chart is constructed so that outcomes 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.

appear to have drifted up over the past year and a half, but remain close to the target.

## The outlook for inflation

Chart 2 shows the Committee's best collective judgement of the outlook for CPI inflation, assuming that Bank Rate follows market yields. In the central projection, inflation falls back to below the target during the first year, as the reduction in energy costs and lower import price inflation feed through into consumer prices and into business costs. But that is partly offset by higher pay growth and some rebuilding of corporate profit margins. Inflation then settles around the target over the medium term. Compared with the November *Report*, the medium-term outlook is similar, but the near-term volatility in inflation is more pronounced.

As usual, there are substantial uncertainties surrounding these projections. Over the forecast period as a whole, these include: the behaviour of wages and prices in the face of robust demand growth but sharp falls in companies' non-wage costs; the degree of spare capacity in the economy; and the evolution of inflation expectations. As in November, there is greater-than-usual uncertainty over the outlook for inflation. There is additional uncertainty in the near term associated with the path of retail gas and electricity prices, and the width of the inflation fan chart has been further enlarged to reflect this. Overall, the risks to growth are judged to be balanced. The risks to inflation are weighted to the downside in the near term and to the upside in the medium term. There is a range of views among the Committee on both the central projection and the balance of risks.

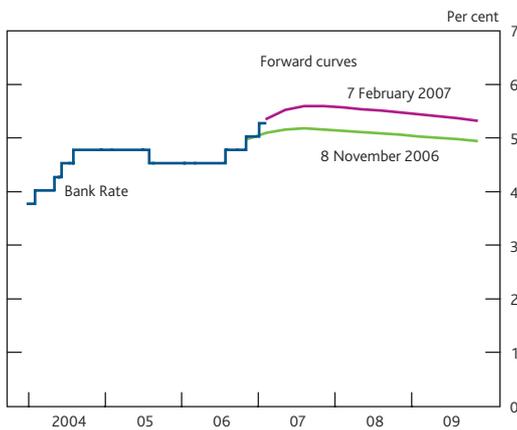
## The policy decision

The Committee noted at its February meeting that the central projection, under the assumption that Bank Rate followed market yields, was for inflation to settle around the target in the medium term, though the near-term profile was unusually volatile. Moreover, there was considerable uncertainty about the path of inflation, both in the near term and further ahead. Given that outlook, and bearing in mind the balance of risks, the Committee judged that no change in Bank Rate was necessary at that meeting to bring CPI inflation back to the target in the medium term.

# 1 Money and asset prices

Since the *November Report*, Bank Rate was increased once, by 0.25 percentage points, on 11 January. Over the past three months, both short and long-term market interest rates have risen in the United Kingdom. That is likely to have accounted for part of the further appreciation of sterling. Asset markets remained buoyant, with increases in equity and house prices. Growth in secured borrowing remained strong, consistent with developments in the housing market. But unsecured borrowing growth fell further. Broad money growth eased a little in 2006 Q4 but remained high.

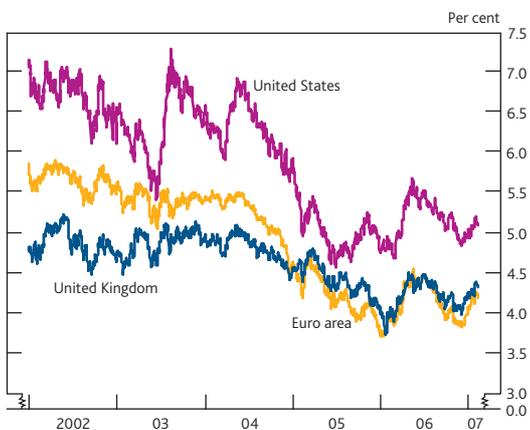
**Chart 1.1** Bank Rate and one-day forward curves<sup>(a)</sup>



Sources: Bank of England and Bloomberg.

(a) Forward rates are derived from instruments that settle on the London interbank offered rate. 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. The curves have been adjusted for credit risk.

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



Sources: Bank of England and Bloomberg.

(a) Instantaneous forward rates ten years ahead.

## 1.1 Asset prices

### Short-term interest rates

Since the *November Report*, the MPC has increased Bank Rate once, by 0.25 percentage points to 5.25%, on 11 January. A summary of the reasons for the Committee's policy decisions in December and January is provided in the box on page 10.

Short-term forward rates provide a guide to market expectations about the future path of official policy rates. These have risen in the United Kingdom, and to a lesser extent in the United States and the euro area, since the *November Report*. In early February, short-term sterling rates suggested that Bank Rate was expected to increase a little during 2007, before falling back slightly over the following two years (**Chart 1.1**).

Elsewhere, the ECB raised its official rate by 0.25 percentage points in December, to 3.5%. The FOMC and the Bank of Japan left their official rates unchanged. In early February, market participants believed that US official rates would decline slightly over the next two years. But further increases in official rates were expected in the euro area and Japan.

### Long-term interest rates

Long-term nominal forward interest rates have risen a little in the United Kingdom over the past three months (**Chart 1.2**). That mainly reflected higher real interest rates. The component of nominal rates that compensates for inflation has remained broadly unchanged since the *November Report*, although it has drifted up a little over the past 18 months (**Chart 1.3**).<sup>(1)</sup> This measure is linked to RPI rather than CPI inflation. Allowing for that difference, market expectations of

(1) For further details, see the box on pages 32–33 of the *November 2006 Report*.

## Monetary policy since the November Report

The MPC's central projection in the November *Report*, under the assumption that Bank Rate followed a path implied by market yields, was for four-quarter GDP growth to remain close to its average rate over the past decade. CPI inflation was projected to rise in the near term, before falling back towards the 2% target.

At the time of the Committee's meeting on 6–7 December, the outlook for the world economy had not altered significantly. The dollar had fallen sharply in November, but the impact on the sterling ERI had been limited. Growth in the United Kingdom in Q3 had been unrevised. The momentum in consumption was difficult to judge, although the latest data appeared consistent with a pickup in growth to around its historical average. There had been upside news on house prices, which for some members indicated an upside risk to near-term consumption. The labour market had been broadly stable, continuing to suggest some slack. Money and credit growth had remained elevated. Further analysis was required to judge the impact on the MPC's forecast of the *Pre-Budget Report*, published on 6 December.

CPI inflation had risen broadly as anticipated. While it was expected to fall back in 2007, the Committee remained concerned that the pickup could influence forthcoming pay awards.

Some members placed more weight on the possible upside risks from strong money growth, the housing market, investment and inflation expectations. Others placed more weight on potential downside risks from the labour market, consumption growth, and the outlook for the US economy. But the Committee agreed that the outlook for inflation was broadly unchanged, and that it was too soon to judge the impact of the recent increases in Bank Rate.

Given these considerations, the Committee voted unanimously to maintain Bank Rate at 5%.

By the time of the MPC meeting on 10–11 January 2007, market interest rates had risen in the United Kingdom, the United States and the euro area. There had been general buoyancy in asset prices, but spot oil prices had moved sharply lower. There was a risk that higher asset prices could push up demand, or influence inflation expectations.

The world economy had evolved broadly as expected, although the downside risks appeared to have diminished somewhat. There had been little news on output growth in the United Kingdom, although the latest survey indicators suggested some upside risks to the near-term growth profile. Retail sales indicators for Q4 had been robust, perhaps

suggesting less downside risk of a further slowing in consumption growth. The degree of spare capacity within firms appeared to have diminished.

Although the pickup in CPI inflation had been broadly as anticipated, for some members there were signs of more underlying inflationary pressure in the short run than expected. It was likely that there was still some slack in the labour market, but there was a risk that the increase in retail price inflation would feed into pay growth. The Committee noted that the possibility of dislodging inflation expectations was a risk for the medium term, and that it was important that wage negotiators did not accommodate what should prove to be a temporary spike in inflation.

Although the news on the month was broadly in line with the November *Report*, the balance of risks to the outlook for inflation had shifted upwards. The Committee noted that an immediate change in Bank Rate would be a surprise to financial markets, but for a majority of members there was already sufficient evidence to justify an increase, and no compelling reason to delay. For those members, there was a significant risk that inflation would not fall back as quickly as previously expected. A rise in Bank Rate now might prevent larger increases later. For some, the fast pace of money and credit growth and buoyant asset prices gave additional concerns.

For other members, the most likely prospect remained for inflation to fall back later in 2007. The MPC had already raised rates by 50 basis points since the summer. It was important to communicate clearly that the Committee would act if pay accelerated or inflation expectations were threatened, but an increase this month ran the risk of prompting an excessive monetary tightening by shifting up market interest rates.

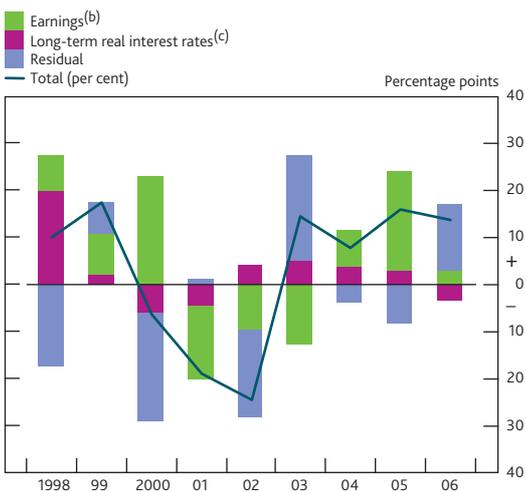
The Committee voted by five to four for a 25 basis point increase in Bank Rate, to 5.25%.

At its meeting on 7–8 February, the Committee voted to maintain Bank Rate at 5.25%.

**Chart 1.3** Medium-term breakeven inflation rates<sup>(a)</sup>

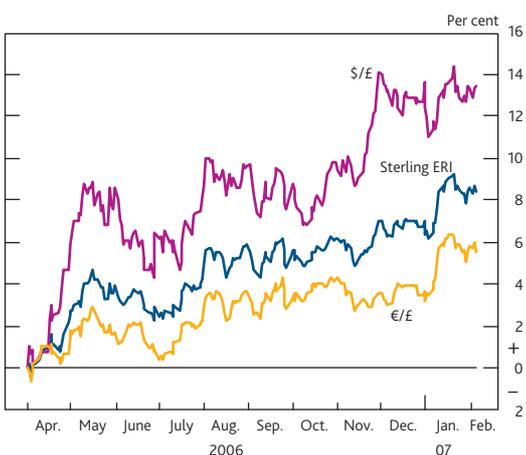
Sources: Bank of England and Bloomberg.

(a) Implied instantaneous inflation rates five and ten years ahead, based on the difference between yields on nominal and inflation-linked government bonds. The instruments used are linked to RPI, rather than CPI, and so are not directly comparable to the Bank's inflation target.

**Chart 1.4** Decomposition of annual percentage changes in the FTSE 100<sup>(a)</sup>

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

(a) Decomposition of the changes in each year to December using a dividend discount model. See footnote (1) on this page for reference.  
 (b) Based on current dividends and analysts' expectations of long-term earnings growth.  
 (c) Ten-year real spot rate derived from government bonds.

**Chart 1.5** Cumulative changes in sterling exchange rates since 3 April 2006

inflation appear to have remained close to target. Survey measures of inflation expectations are discussed in Section 4.

Long-term nominal forward rates have also risen in the United States and the euro area, suggesting that common international influences may have played a role. Despite the latest increases, however, long-term forward interest rates remain low relative to their average over recent years.

### Equity prices

In the United Kingdom, the FTSE All-Share index averaged 3245 in the fifteen working days to 7 February. That was 2.6% higher than the starting point for the *November Report*.

The FTSE All-Share index has doubled since its trough in 2003. Equity prices reflect the value that investors attach today to the uncertain stream of dividends they expect to receive in the future. So movements in equity prices could reflect changes to: current and expected future earnings; the interest rate used to derive the value today of future dividends; or the compensation that investors require for the uncertainty associated with future returns.

Using a simple accounting model,<sup>(1)</sup> falling long-term interest rates and rising earnings made a positive contribution to UK equity prices in 2004 and 2005 (**Chart 1.4**). But in 2006, most of the gains were attributed by the model to the residual, or unexplained, component. That incorporates factors such as compensation for risk and any error in measuring earnings expectations, as well as any deficiencies in the model itself. The strong influence of this component could indicate an increase in risk appetite during the past year.

Since 2003, there have been sharp rises not only in equity prices, but also in the prices of a wide range of other assets. Potential explanations for this are considered in the box on pages 12–13.

### Exchange rates

In the fifteen working days to 7 February, the sterling effective exchange rate index (ERI) averaged 106.1. That was 2.5% higher than the starting point in the *November Report*, and around 9% higher than in early April 2006 (**Chart 1.5**). After the most recent appreciation, the ERI now lies above the upper end of the fairly narrow range in which it has moved over much of the past decade.

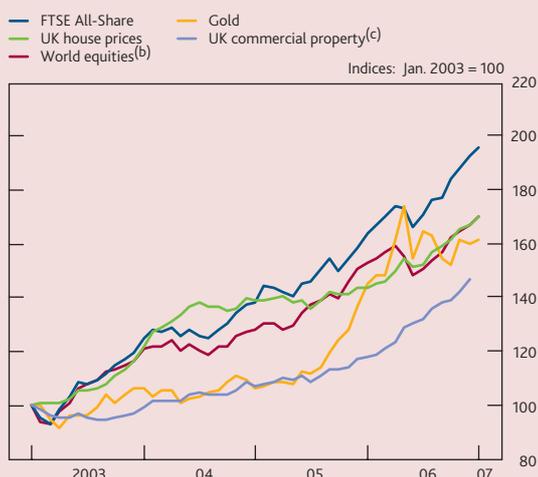
Part of the rise in the sterling ERI since April reflects a depreciation of the dollar. It is possible that investors have revised down their views about the dollar's long-term sustainable real value. And that could be linked to continued concerns about the US current account deficit. The

(1) For more details, see Panigirtzoglou, N and Scammell, R (2002), 'Analysts' earnings forecasts and equity valuations', *Bank of England Quarterly Bulletin*, Spring, pages 59–66.

## Common trends in asset prices

Over the past four years, the prices of a wide range of financial and physical assets have risen substantially (**Chart A**). The widespread nature of the increases suggests a common factor. This box considers some possible explanations.

**Chart A** Selected asset prices<sup>(a)</sup>



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

- (a) Monthly data. All prices expressed in SDRs, an IMF unit of account.  
 (b) Morgan Stanley Capital International index.  
 (c) Investment Property Databank capital index for offices.

Assets provide a stream of often uncertain income or services. Asset prices depend on the value that investors place today on those future streams. If the income flows are expected to rise in line with nominal output, asset prices might be expected to rise at a similar rate. However, the increases over the past four years have generally been well in excess of that. For example, global equities have risen, on average, at more than twice the rate of world nominal GDP.

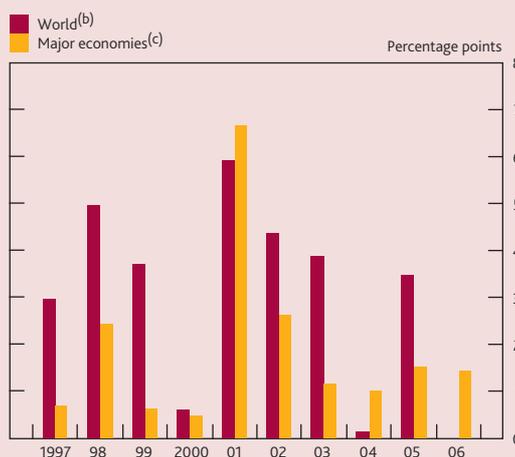
Part of the explanation for these rapid price increases is the decline in long-term real interest rates in recent years. Other things being equal, this should increase the current value of a given stream of future income. However, this is unlikely to explain all of the overall increase in asset prices (page 11 discusses the example of UK equities).

The rise in asset prices might also reflect higher expectations for global productivity growth. But medium-term projections of output growth for most of the major economies have changed little over the past four years.

Strong global money growth may have played a role in driving asset prices up. Measures of broad money around the world have risen a lot faster than nominal spending over much of the period since 2003 (**Chart B**). While part of the strength of money growth is likely to have been associated with lower interest rates, other factors may have boosted money growth

over and above the influence of lower interest rates alone. To the extent that this left households and companies holding more monetary assets than they would like, that may have boosted demand for a range of other assets. Such demand would probably feed through to higher asset prices by reducing the compensation for bearing risk.

**Chart B** Excess of global broad money growth over nominal spending growth<sup>(a)</sup>



Sources: IMF, Thomson Financial Datastream and Bank of England calculations.

- (a) Annual growth in the stock of broad money less annual growth in nominal GDP. Country-level data have been aggregated using IMF purchasing power parity (PPP) exchange rates.  
 (b) Data to 2005 on the stock of broad money for 175 countries and world nominal GDP, taken from the September 2006 IMF WEO database.  
 (c) Euro area, Japan, United Kingdom and United States. The 2006 figure is for the year to Q3.

Monetary policy has been tightened recently, particularly in the major economies. Other things being equal, that should slow the rate of money growth in those countries. However, much of the strength of money growth has been outside the major economies, in countries such as China and India. And money growth remained high in those countries in 2006, so global liquidity may have continued to put upward pressure on asset prices.

Another explanation for the high level of asset prices relates to asset quality. Strong demand for assets, particularly from developing countries, may not have been matched by the supply of new high-quality assets. The creation of such assets could have been limited by factors such as relatively weak property rights and bankruptcy procedures in some countries.<sup>(1)</sup> A rise in the demand for high-quality assets relative to their supply would tend to push down the compensation that investors receive for the uncertainty of future returns and bolster asset prices.

The compensation for bearing risk may also have fallen if the risks are perceived to have declined. Market participants'

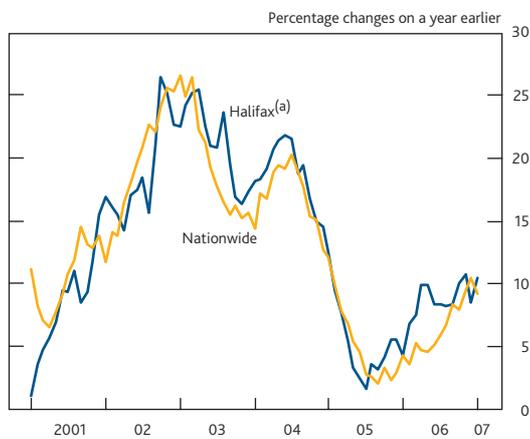
(1) For a further discussion of the possibility that higher asset prices can be explained by a limited supply of high-quality assets, see Caballero, R J (2006), 'On the macroeconomics of asset shortages', *NBER Working Paper no. 12753*.

expectations of the future volatility of many asset prices, as implied by option markets, have fallen. That could reflect an environment of greater macroeconomic stability. As shown on page 11, lower risk premia may have boosted UK equity prices since 2003. Credit spreads on corporate bonds have also narrowed substantially in recent years.

The implications for CPI inflation of higher asset prices will depend on the reasons for the rise and the extent to which those factors persist. For example, if greater macroeconomic stability has led to a persistent decline in risk premia, then at least some of the current level of asset prices

will be sustained. That may not have implications for inflation if any boost to aggregate demand is matched by additional supply. However, to the extent that current asset prices reflect high levels of global liquidity, this could put upward pressure on demand, inflation expectations and, ultimately, CPI inflation. Finally, it is possible that the high level of asset prices reflects unrealistic perceptions on the part of investors, at least to some degree. For example, investors may be overly optimistic about future income. If this is the case, then these misperceptions are likely to correct at some point, representing a downside risk to both asset prices and CPI inflation.

**Chart 1.6** UK house prices



(a) The published index has been adjusted in 2002 by the Bank of England to account for a change in the method of calculation.

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

	Averages since 2000	2006			
		Q1	Q2	Q3	Q4
<b>Activity</b>					
Mortgage approvals (000s) <sup>(b)</sup>	108	117	115	122	123
RICS sales to stocks ratio <sup>(c)</sup>	0.43	0.35	0.36	0.38	0.42
RICS new buyer enquiries <sup>(d)</sup>	-1	12	15	19	6
HBF net reservations <sup>(e)(f)</sup>	3	14	27	23	32
HBF site visits <sup>(e)(f)</sup>	-6	-3	5	2	9
<b>Prices</b>					
HBF current balance <sup>(d)(f)</sup>	25	8	19	28	30
RICS current balance <sup>(g)</sup>	18	11	21	37	44
RICS expectations balance <sup>(g)</sup>	15	23	32	37	36

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

- (a) Averages of monthly data. All series are net percentage balances unless otherwise stated.  
 (b) Loan approvals for house purchase.  
 (c) Ratio of sales recorded over the past three months relative to the level of stocks on estate agents' books at the end of the month.  
 (d) Compared with the previous month.  
 (e) Compared with a year ago.  
 (f) Seasonally adjusted by Bank staff.  
 (g) Change during the past three months or expected over the next three months.

implications for sterling of a further fall in the dollar would depend on how, and why, the adjustment took place. In some circumstances, sterling might be expected to appreciate further. But other outcomes are also possible. For example, if concerns about global imbalances spread to other countries with current account deficits, such as the United Kingdom, sterling could depreciate.<sup>(1)</sup> The impact of the recent dollar depreciation on the sterling ERI has been limited because the dollar only accounts for around a fifth of the index.

Since April, sterling has also appreciated by around 6% against the euro, which has by far the greatest weight in the ERI basket. One factor behind the appreciation of sterling against both the euro and the dollar is likely to have been the increase in UK interest rates relative to rates in those other economies. Other things being equal, sterling assets become more attractive as UK interest rates rise relative to those overseas, leading to an immediate appreciation of sterling. That is part of the monetary policy transmission mechanism.

### The housing market

Annual house price inflation picked up sharply during 2006 to around 10% (Chart 1.6), well ahead of growth in household incomes. Survey indicators showed a similar picture (Table 1.A). The RICS and HBF measures of current house price increases rose above their recent historical averages in 2006. And the RICS measure of the ratio of sales to stocks, an indicator of market tightness, also increased.

A number of factors could have contributed to the renewed upwards momentum in house prices in 2006. Households may have revised up expectations of their future income. That is consistent with the recovery in consumption growth over the past year. And rising demand for housing, reflecting demographics and higher rates of net migration, may have pushed up prices, against the background of continued limited supply. More generally, the increases in house prices have

(1) For further details, see Spange, M and Zabczyk, P (2006), 'Sterling implications of a US current account reversal', *Bank of England Working Paper no. 296*.

coincided with rapid rises in a wide range of other asset prices (see the box on pages 12–13).

Recent housing market indicators have been more mixed. The RICS measure of expected house price increases declined in December. And the balance for new buyer enquiries recorded by RICS fell sharply towards the end of 2006. The HBF measure of net reservations for new homes remained high, but the number of loan approvals for house purchase decreased in December, from 129,000 to 113,000. In part, this may reflect the increases in Bank Rate since the beginning of August 2006.

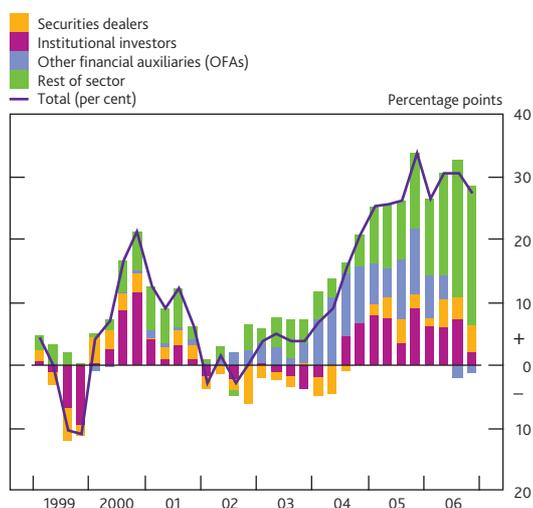
The implications of the latest developments in house prices for household spending will depend on the reasons underlying them and the extent to which those factors persist. Developments in consumer spending are discussed in Section 2.

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

	2006			
	Q1	Q2	Q3	Q4
Notes and coin	5.1	5.7	5.1	5.5
M4	12.2	13.4	14.4	12.8
of which:				
Households	8.1	7.7	8.3	8.2
Private non-financial corporations	11.3	10.1	14.2	12.4
Non-bank financial corporations	23.8	31.4	29.9	24.4
Memo: Nominal GDP	4.1	4.9	6.0	n.a.

(a) Growth rates for money data are for the last month in each quarter.

**Chart 1.7** Contributions to annual growth in non-bank financial companies' sterling bank deposits<sup>(a)</sup>



(a) These data are not directly comparable with the M4 data reported in Table 1.B. In particular, they do not cover deposits with building societies. Non seasonally adjusted.

## 1.2 Money, credit and balance sheets

### Monetary aggregates

In the long run, increases in money growth are usually associated with increases in inflation.<sup>(1)</sup> Strong money growth may be associated with greater spending on goods and services, or upward pressure on asset prices, posing an upside risk to inflation. To the extent that people recognise this, strong money growth may also prompt them to raise their expectations of future inflation.

Growth in M4, a broad measure of money that includes bank and building society deposits as well as notes and coin, was 12.8% in the year to Q4 (Table 1.B). That was slightly weaker than in 2006 Q3, but remained much higher than the recent growth in nominal spending.

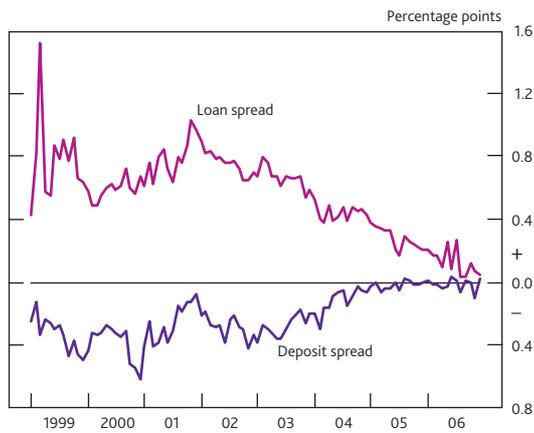
As noted in previous Reports, the pickup in M4 growth over the past two years has been driven largely by rapid increases in the deposits held by non-bank financial companies (known as other financial companies, or OFCs). That sector is made up of many different businesses, which are likely to use their money holdings in different ways. One way of grouping these businesses is shown in Chart 1.7.

Institutional investors (such as pension funds) and securities dealers have accounted for some of the pickup in OFCs' money over the past two years. Such deposits could be used to purchase other financial or real assets, putting upward pressure on asset prices and ultimately inflation.

The deposits of other types of OFC may pose less of a risk to inflation. For example, the group of businesses known as other financial auxiliaries (OFAs) largely act as intermediaries between banks, so their deposits are unlikely to be used to

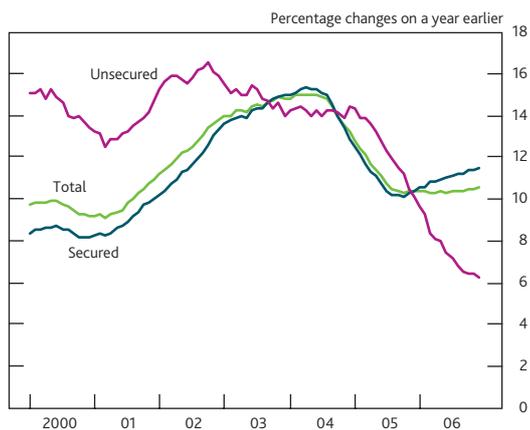
(1) See King, M (2002), 'No money, no inflation — the role of money in the economy', *Bank of England Quarterly Bulletin*, Summer, pages 162–77.

**Chart 1.8** Spread over Bank Rate of deposit and loan rates for non-bank financial companies<sup>(a)</sup>



(a) Effective rates on loans and deposits less Bank Rate.

**Chart 1.9** Lending to individuals



**Table 1.C** UK personal insolvencies<sup>(a)</sup>

Percentages of adult population, annualised

	Average 1998–2004	2005		2006		
		Q1	Q2	Q3	Q4	
Total personal insolvencies	0.09	0.17	0.23	0.26	0.27	0.27
of which:						
Bankruptcies	0.06	0.11	0.15	0.14	0.14	0.14
Individual voluntary arrangements	0.02	0.06	0.08	0.11	0.12	0.12

Sources: The Insolvency Service and ONS.

(a) Components may not add up to the totals due to rounding. Insolvencies in Scotland take the form of sequestrations and protected trust deeds, which are broadly equivalent to bankruptcy and individual voluntary arrangements respectively. Population estimates for the three months to November used for Q4. Non seasonally adjusted.

purchase assets outside the banking sector. This group accounted for a substantial part of the pickup in OFCs' money growth in 2004.

During 2005 and 2006, the contribution of the rest of the OFCs' sector has picked up. The demand for money by these companies — ranging from housing credit corporations to special purpose vehicles — is less well understood. Some of the growth in this component is likely to reflect transfers of funds from OFCs to banks owned by the same banking group. There is considerable uncertainty around the magnitude of these intragroup transfers and their implications for inflation. However, some businesses within this component may also be channelling excess money from households and companies into the banking system. Rapid growth in these deposits may pose an upside inflationary risk.

One potential explanation for the rapid growth in OFCs' M4 is that deposits have become less costly to hold compared with other financial assets. The rates received on OFCs' deposits have risen in recent years to close to Bank Rate (Chart 1.8). Among other factors, that might reflect greater competition within the banking sector. The implications for inflation are likely to depend on the extent to which such spreads persist. If deposit rates were to fall back relative to Bank Rate, OFCs might seek to use excess money balances to purchase other higher-yielding assets, putting upward pressure on asset prices.

### Household finances

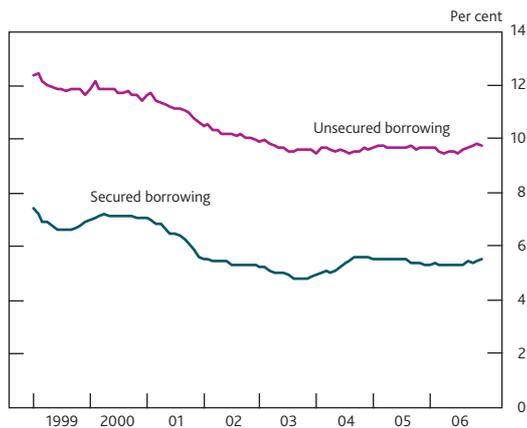
Annual growth in lending to individuals was 10.6% in December, broadly in line with the rates seen over the previous year. Within this, however, the growth rates of secured and unsecured borrowing have moved in different directions.

Annual growth in secured borrowing, which accounts for around four fifths of the total stock of household debt, picked up over the past year. By contrast, unsecured borrowing continued its rapid deceleration (Chart 1.9): annual growth is now at its lowest rate since 1993. The implications of that slowdown for consumer spending, and hence inflation, will depend on why it occurred.

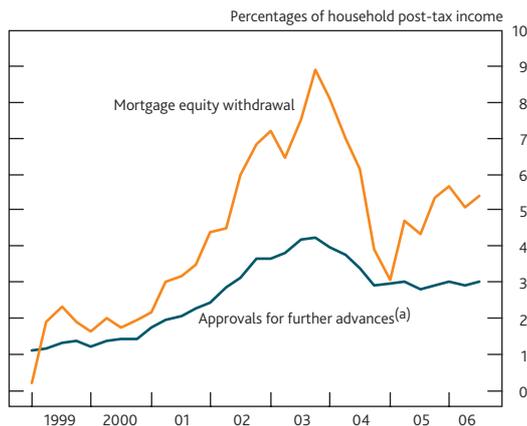
One explanation might be that households have become less willing or less able to borrow. A recent survey by NMG Research for the Bank showed that a small proportion of respondents believed that it had become harder to obtain credit over the past year and that they were now credit constrained.<sup>(1)</sup> And discussions with banks suggest that they have been tightening the criteria against which they will lend on an unsecured basis, possibly in response to rising defaults and personal insolvencies (Table 1.C).<sup>(2)</sup>

(1) For further details, see Waldron, M and Young, G (2006), 'The state of British household finances: results from the 2006 NMG Research survey', *Bank of England Quarterly Bulletin*, Q4, pages 397–403.

(2) For further background, see the box on pages 8–9 of the May 2006 Report.

**Chart 1.10** Household effective interest rates<sup>(a)</sup>

(a) Monthly data to December 2006 on the effective rates paid on the outstanding stock of secured and unsecured borrowing.

**Chart 1.11** Indicators of mortgage equity withdrawal

(a) Excludes mortgage approvals for house purchase and refinancing of existing mortgages. Data to 2006 Q3, the latest date for which household income data are available.

It could also be that households have been switching from unsecured to secured borrowing, which is typically substantially cheaper (**Chart 1.10**). However, the difference in borrowing costs has been fairly stable in recent years, so it is not clear why the rate of switching would have increased recently. One possibility is that greater awareness and availability of products that facilitate switching has prompted a move away from unsecured to secured borrowing. Another is that rising house prices have increased the collateral available to households, allowing more people to take advantage of lower secured borrowing rates.

One way of assessing the potential switch to secured borrowing is to look at mortgage equity withdrawal (MEW). MEW has picked up over the past year, coinciding with a recovery in consumption growth. That could help to explain the slowdown in unsecured borrowing growth if the additional MEW has been used to finance consumption.

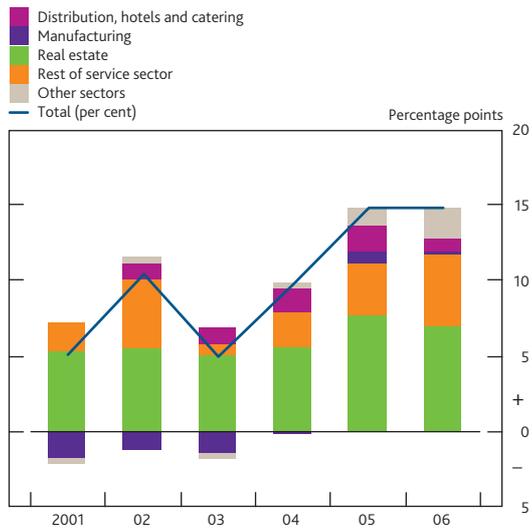
A large part of MEW occurs passively as a result of property transactions. For example, funds can be released when households with high equity sell up to buyers with low equity and large mortgages. Such MEW from final sales or trading down is more likely to be saved than spent.<sup>(1)</sup> But households can also actively choose to increase their secured borrowing to finance consumption. That can take place in a number of ways: when moving house; when refinancing a mortgage; or when taking out further advances against housing equity without moving home. Approvals for further advances appear to have played less of a role in the latest pickup in MEW than earlier in the decade (**Chart 1.11**). However, it may be that there has been an increase in active borrowing through the other channels. Although it is difficult to be certain, it is likely that some of the pickup in total MEW has been used to finance consumption. And that could explain at least part of the slowdown in unsecured borrowing.

In aggregate, the rapid rise in debt levels over the past few years has been more than matched by increases in the value of households' assets. That is likely to have limited the impact of higher debt on consumption. But not all households that have accumulated debt will have benefited from higher asset prices. That has led to some households facing repayment difficulties. While this is a serious issue for those households, they are likely to account for only a small proportion of overall consumer spending.

Looking forward, the recent increases in Bank Rate are feeding through into a higher cost of household borrowing. However, the precise scale and timing of the impact on household finances depends on the response of banks and the structure of household debt.

(1) For further details, see Benito, A and Power, J (2004), 'Housing equity and consumption: insights from the Survey of English Housing', *Bank of England Quarterly Bulletin*, Autumn, pages 302–09.

**Chart 1.12** Contributions to annual growth in sterling bank lending to non-financial companies<sup>(a)</sup>



(a) Contributions to growth in year to Q4. These data are not directly comparable with the M4 lending data. In particular, they do not cover deposits with building societies. Non seasonally adjusted.

## Corporate finances

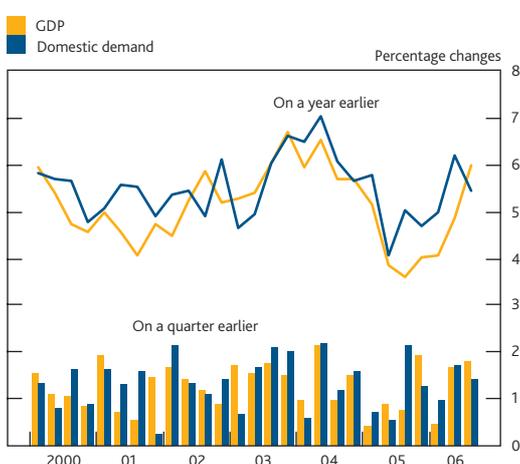
Both corporate deposits and corporate borrowing have picked up sharply over the past two years. M4 lending to private non-financial companies rose by 19% in the year to Q4, the fastest growth since 1990. Although companies have used these funds, in part, to buy back shares, the total finance raised by companies through bonds, shares and bank borrowing has also risen rapidly.

Real estate companies account for around two fifths of total bank borrowing by non-financial companies. Borrowing by this sector has grown strongly for a number of years, consistent with the buoyancy of the residential and commercial property markets. Over the past two years, however, other companies within the service sector have made a larger positive contribution to growth, and manufacturers' borrowing has begun to grow again (**Chart 1.12**). That could indicate improved prospects for business investment in those sectors (**Section 2**).

## 2 Demand

Demand grew steadily during 2006, at close to its average rate over the past decade. Household consumption growth was volatile, but the underlying trend appeared firm. Business investment growth picked up strongly, after a sustained period of weakness. Continued growth in the United Kingdom's main trading partners supported demand for UK exports.

**Chart 2.1** Nominal GDP and domestic demand<sup>(a)</sup>



(a) At current market prices.

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

	Averages		2006			
	2004	2005	Q4	Q1	Q2	Q3
Household consumption <sup>(b)</sup>	0.8	0.3	0.6	0.3	0.9	0.4
Government consumption	0.5	0.8	0.5	0.2	0.6	0.8
Investment	0.9	1.4	0.5	2.0	0.5	1.8
<i>of which, business investment</i>	0.2	0.9	0.7	2.1	2.0	3.1
<b>Final domestic demand</b>	<b>0.8</b>	<b>0.5</b>	<b>0.6</b>	<b>0.6</b>	<b>0.9</b>	<b>0.6</b>
Change in inventories <sup>(c)(d)</sup>	0.0	-0.1	-0.1	0.2	0.1	0.1
Alignment adjustment <sup>(d)</sup>	0.0	-0.1	0.1	0.1	-0.1	-0.1
<b>Domestic demand</b>	<b>0.8</b>	<b>0.4</b>	<b>0.6</b>	<b>0.8</b>	<b>0.8</b>	<b>0.7</b>
'Economic' exports <sup>(e)</sup>	1.4	1.7	2.3	1.6	1.1	-0.9
'Economic' imports <sup>(e)</sup>	1.7	1.1	1.9	2.1	1.3	-0.7
<b>Net trade<sup>(d)</sup></b>	<b>-0.1</b>	<b>0.1</b>	<b>0.0</b>	<b>-0.2</b>	<b>-0.1</b>	<b>0.0</b>
<b>Real GDP at market prices</b>	<b>0.6</b>	<b>0.5</b>	<b>0.7</b>	<b>0.7</b>	<b>0.7</b>	<b>0.7</b>

(a) Chained-volume measures.

(b) Includes non-profit institutions serving households.

(c) Excludes the alignment adjustment.

(d) Percentage point contributions to quarterly growth of real GDP.

(e) Excludes the estimated impact of missing trader intra-community (MTIC) fraud.

Monetary policy affects inflation, in part, by influencing the level of nominal demand relative to supply. Quarterly growth in nominal GDP picked up a little to 1.8% in 2006 Q3 (**Chart 2.1**). Over the same period, there was a slight easing in quarterly growth of nominal domestic demand.

Developments in real demand, and its composition, can help the MPC to judge inflationary pressures. Quarterly growth in the volume of GDP appears to have been remarkably stable over the recent past. The ONS estimates that real GDP rose by 0.7% in each of the four quarters up to and including 2006 Q3. And, according to provisional estimates, real GDP rose by 0.8% in Q4.

Although overall GDP growth has been steady, there have been some changes in its composition (**Table 2.A**). In particular, business investment growth has picked up sharply, suggesting some rebalancing within domestic demand.

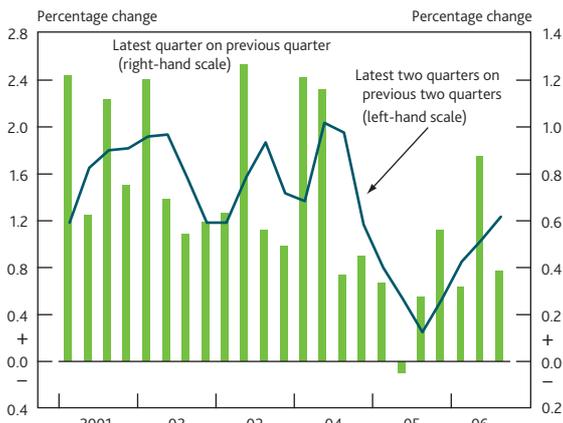
### 2.1 Domestic demand

#### Household consumption

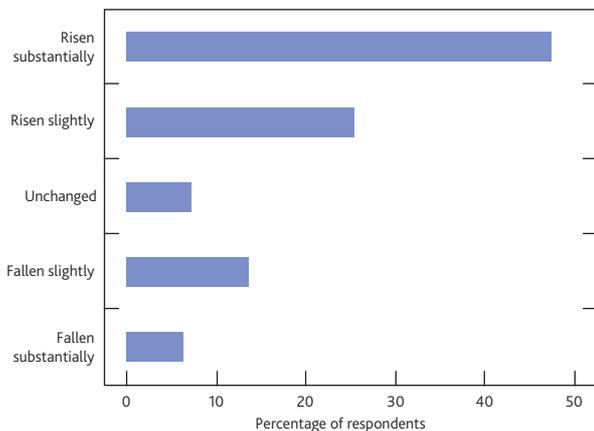
Recent consumption data have been volatile. Household consumption grew by only 0.4% in 2006 Q3, following growth of 0.9% in Q2. But a smoother measure of six-monthly growth suggests a gentle acceleration of spending over the past 18 months or so (**Chart 2.2**).

The recovery in consumer spending appears to have continued into Q4. Although official consumption statistics are not yet available, other data give an indication of the strength of spending. Retail sales volumes rose by 1.4% in Q4 as a whole, above the ten-year average rate, and by 1.1% in December alone. That is consistent with a survey of companies carried out by the Bank's regional Agents ahead of the MPC's January meeting, which pointed to strong growth in retail sales values around the Christmas period (**Chart 2.3**).

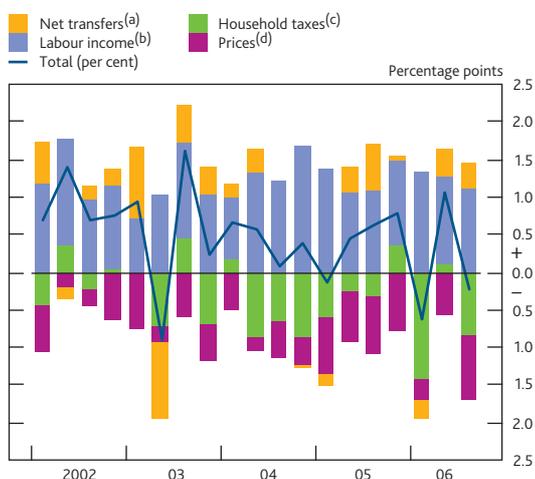
Consumption also depends on spending on services — which accounts for around half of household spending. The Bank's

**Chart 2.2 Household consumption<sup>(a)</sup>**

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

**Chart 2.3 Agents' survey: spending over the Christmas/sales' period<sup>(a)</sup>**

(a) Unweighted responses of 110 contacts to the question: 'Over the Christmas/sales' period to date, compared with the same period last year, has the value of your sales fallen substantially/fallen slightly/been unchanged/risen slightly/risen substantially?'

**Chart 2.4 Contributions to quarterly growth in real post-tax labour income**

(a) General government benefits minus employees' National Insurance contributions.  
 (b) Wages and salaries plus mixed income.  
 (c) Taxes including income and Council Tax.  
 (d) Consumption expenditure deflator (including non-profit institutions serving households).

regional Agents reported robust growth in consumer services turnover over Christmas and in Q4 as a whole.

Households base their spending decisions on both their current and expected future income. But some households, particularly those who are credit constrained, may put more weight on current income.

Like consumption, real post-tax labour income growth has been volatile over the past year (**Chart 2.4**). Looking through this, households' real post-tax labour income rose only slightly over the first three quarters of 2006. Higher prices for energy-intensive goods and services were one reason for this weakness. But strong growth in household taxes also played a role. In fact, on average since 2003, household taxes and employees' National Insurance contributions (NICs) have been rising faster than earnings — in other words, the effective tax rate has risen. This partly reflects the increase in the rate of NICs in April 2003. However, it also could reflect fiscal drag: when earnings are rising faster than inflation, more taxpayers will fall into higher tax brackets.

A wider measure of households' disposable resources includes both the costs of debt servicing and the income from holding financial assets. Bank Rate has been increased by three quarters of a percentage point since August 2006. The effective interest rates facing borrowers and savers have also risen. This will reduce the money available for spending on goods and services by indebted households, but increase it for households with savings. Debtor households are likely to spend more of a given increase in income than creditor households, so the rises in interest rates should act as a negative influence on consumer demand going forward.

Although households' real income growth has been subdued recently, increases in the value of households' financial assets may have supported consumption in 2006. Households' net financial wealth grew by 8.3% in the year to 2006 Q3.

Developments in the housing market may also have supported consumption in the recent past. Annual house price inflation picked up in 2006 (Section 1.1). House prices are influenced by similar factors to consumption, such as future income expectations and interest rates. So although house prices and consumption often move together, this does not necessarily imply any causal link between the two. There are circumstances, however, where the housing market may also have a direct impact on household spending.<sup>(1)</sup> In particular, by increasing the amount of collateral available, rising house prices may make it easier and cheaper for some households to access credit, allowing them to bring forward spending.

(1) For more information, see Benito, A, Thompson, J, Waldron, M and Wood, R (2006), 'House prices and consumer spending', *Bank of England Quarterly Bulletin*, Summer, pages 142–54.

Early indicators of retail spending in 2007 Q1 have been upbeat. According to the *CBI Distributive Trades Survey* annual growth in retail sales was strong in January, and respondents expected this strength to continue into February.

### Investment

Whole-economy investment rose by 1.8% in 2006 Q3. Within this, there was strong growth in business investment. That expanded by 3.1% on the quarter, and 8.2% on a year earlier — a six-year high. Growth was stronger than expected at the time of the *November Report*.

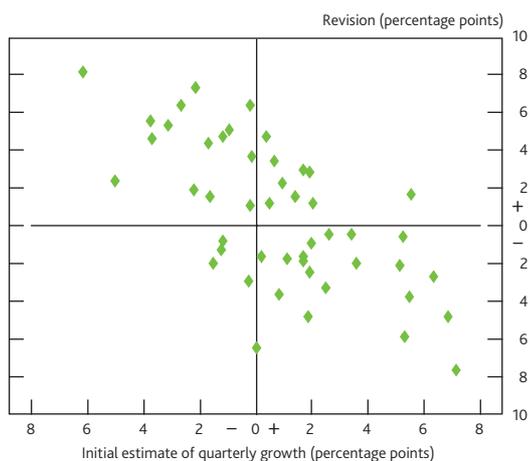
Business investment data are highly uncertain and subject to significant revision as the ONS receives further information. Current estimates suggest that quarterly growth was above its historic average in each of the first three quarters of 2006. In the past, high initial estimates of growth have tended to be revised down (**Chart 2.5**). But revisions to growth rates have also shown that typically if one quarter is revised down, an adjacent quarter tends to be revised up. So it is unlikely that the strong growth rates in each of the past three quarters will be completely revised away.

One way of evaluating the likelihood of revisions is to compare official data with business surveys. Recent survey indicators have been consistent with a recovery in investment growth. For example, the BCC survey of investment intentions has been suggestive of a pickup over the past year or so (**Chart 2.6**). And the Bank's regional Agents' scores for investment intentions have picked up since the start of 2006 for the manufacturing and services sectors. In the past, surveys on investment intentions have tended to move a couple of quarters before official data on investment, so these recent readings are consistent with continued firm investment growth in the near term.

A recovery in business investment would be consistent with the trend in one of its main determinants — the real cost of capital. The cost of capital depends on a number of factors including interest rates and taxes, but one of the main drivers is the relative price of capital goods.<sup>(1)</sup> This price has been falling for many years, encouraging companies to use proportionately more capital equipment in the production process (**Chart 2.7**). So other things being equal, the volume of business investment should grow more rapidly than GDP on average. But, between 1999 and 2005, average growth in the volume of business investment was below that in GDP (Section 3.2). So the recent pickup in business investment relative to output could reflect a return towards the past upward trend in this ratio.

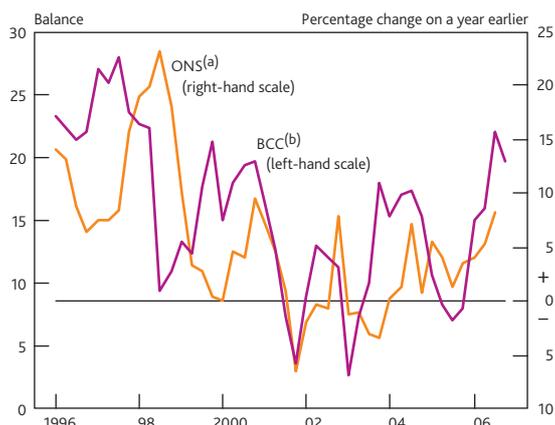
Assessing corporate profitability can help the MPC form judgements about prospects for investment and other

**Chart 2.5 Business investment revisions<sup>(a)</sup>**



(a) Revisions are calculated as the current estimate of the real quarterly growth rate less the estimate of the real quarterly growth rate at the time of the first *Quarterly National Accounts* release. Revisions are shown for initial estimates between 1993 Q1 and 2004 Q4. Data before implementation of ESA(95) in 1998 are for 'private other investment' and investment by public corporations.

**Chart 2.6 Measures of business investment**

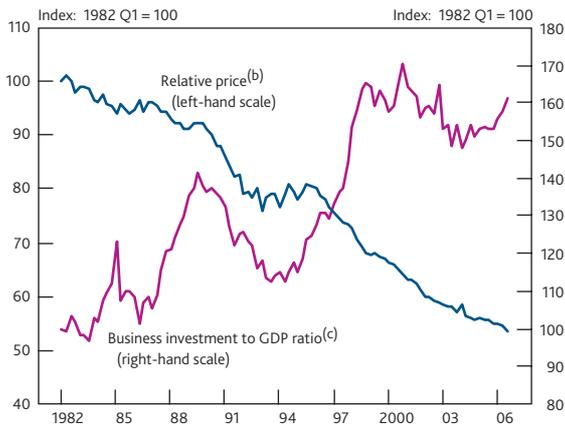


Sources: BCC and ONS.

(a) Business investment, chained-volume measure. Data exclude the transfer of nuclear reactors from the public corporation sector to central government in 2005 Q2.  
(b) Percentage balance of companies who say they have revised up their planned investment in plant and machinery over the past three months minus those who say they have revised it down. The services and manufacturing balances have been weighted together based on the average shares since 1996 of real business investment accounted for by distribution and other services, and the remainder of business investment respectively. Data are non seasonally adjusted.

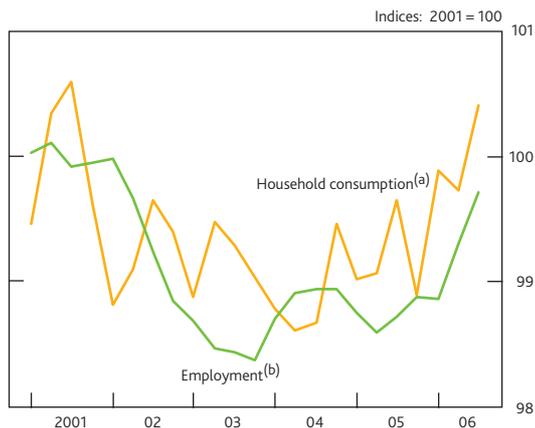
(1) For more information, see Bakhshi, H and Thompson, J (2002), 'Explaining trends in UK business investment', *Bank of England Quarterly Bulletin*, Spring, pages 33–41.

**Chart 2.7 Business investment and the relative price of capital<sup>(a)</sup>**



(a) Data exclude the transfer of nuclear reactors from the public corporation sector to central government in 2005 Q2.  
 (b) Ratio of the business investment deflator to the GDP deflator at market prices.  
 (c) Ratio of the chained-volume measure of business investment to the chained-volume measure of GDP at market prices.

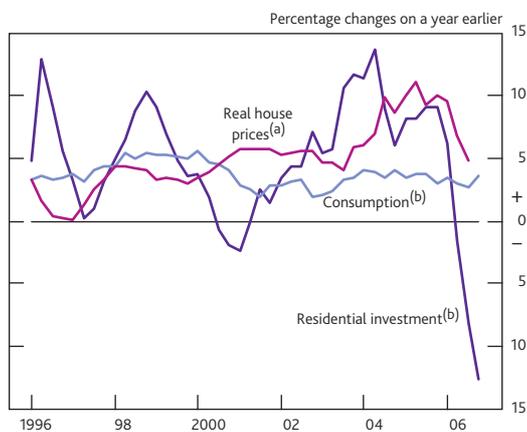
**Chart 2.8 German consumption and employment**



Source: Eurostat.

(a) Chained-volume measure, includes non-profit institutions serving households.  
 (b) Number of persons engaged in economic activity with place of work in Germany.

**Chart 2.9 US housing market and consumption**



Sources: Bureau of Economic Analysis and Office of Federal Housing Enterprise Oversight.

(a) Office of Federal Housing Enterprise Oversight house price index deflated by the personal consumption expenditures deflator.  
 (b) Chained-volume measures.

economic variables. Profits are currently high relative to the capital stock, increasing the incentive to invest. This is discussed in more detail in a box on page 22.

### Government spending

Nominal government consumption grew by 1.2% in 2006 Q3. The Government set out its latest fiscal and macroeconomic projections in its December 2006 *Pre-Budget Report*, and the MPC assumes that nominal spending and effective tax rates will move broadly in line with the plans set out there. Those plans involve some modest changes in the path and composition of spending, but overall contain limited news for the MPC's projections.

## 2.2 External demand and net trade

Developments in the world economy since the November *Report* have been generally positive. The euro-area recovery has continued. And recent US data have been more upbeat than expected.

### The euro area

The recovery in euro-area output continued to gather strength in 2006. Growth in the euro area is estimated to have averaged 0.8% per quarter in the first three quarters of 2006, well above the average of 0.5% since 1995. Purchasing managers' indices, which have a relatively strong relationship with output growth, suggest continued robust growth in Q4.

Within the euro area, GDP growth in Germany — the largest single economy — picked up. A key uncertainty has been whether there will be a sustained recovery in consumption there. After being flat since around 2002, consumption rose this year (**Chart 2.8**). In part that could reflect a shift of spending from 2007 into the second half of 2006 ahead of the January increase in VAT, rather than a more sustained rise in underlying growth. But the determinants of household spending do look supportive of a more soundly based consumer recovery. For example, employment growth has picked up significantly during 2006.

### The United States

GDP growth in the United States slowed in the middle of 2006, but picked up again in the fourth quarter. In Q4, GDP growth was estimated at 0.9%, a little above its historical average. Residential investment fell by 5.2% on the quarter, reflecting continued weakness in the housing market. But the data so far suggest that the housing market slowdown has not spread to consumer spending (**Chart 2.9**). In fact, personal consumption rose by 1.1% in Q4.

As in the United Kingdom, there is not necessarily a causal link between house prices and consumption in the United States (Section 2.1). But to the extent that the slowing in house price inflation has pushed down on consumption, this seems to have been more than offset by robust growth in other determinants.

## Corporate profits in the United Kingdom

Corporate profits can provide useful information about the economy. In particular, companies' profits relative to their capital (the rate of return) may give an indication of future investment trends. And companies' profits relative to their output (the profit share) can provide a signal about future pricing pressures. This box discusses the different concepts that underpin these two measures (shown in **Chart A**), and analyses recent movements.

### Basic concepts

The rate of return is defined by the ONS as total profits divided by the value of the capital stock. It gives an indication of the profitability of past investment in capacity. In part, companies base their investment decisions on expectations about the likely rate of return on new capital projects. High expected rates of return encourage companies to invest.

The profit share is defined as profits divided by the value of output. At an individual company level, this concept is likely to be monitored closely, both as an indicator of cash flow and as an indicator of how well the business is doing. Aggregating across companies, the profit share can give a signal about future pricing pressures. For example, a weak profit share suggests that, on average, prices are low relative to the costs of production, and companies may react by raising prices or else bearing down on costs.

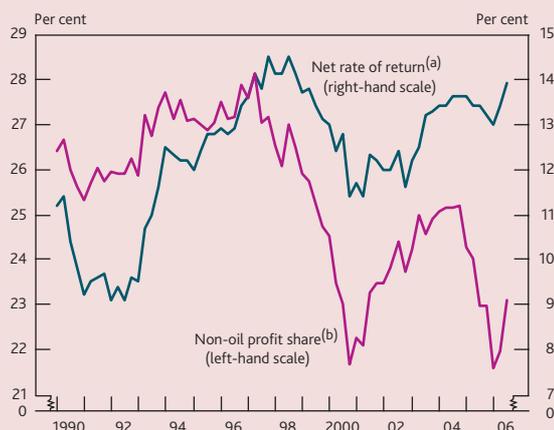
### Recent trends

As **Chart A** shows, the net rate of return and the profit share can move quite differently. The gap between the two is particularly marked at present. In part, this reflects two definitional issues. First, the net rate of return excludes financial corporations, which made a significant downward contribution to UK profits in 2005. Second, the rate of return uses profits net of depreciation, while the profit share uses a gross measure. Net profits have risen recently relative to gross profits. But these factors only partly account for the current gap.

Even if the two measures used identical profits data, they would move in different ways if capital and output are growing at different rates. One reason why the two measures show different trends is that, over a long time period, prices of capital goods have fallen relative to output prices. That has contributed to a fall in the nominal capital-output ratio in the past, and is likely to continue to do so in the future. That will push up the rate of return relative to the profit share.

In addition to this long-term pricing trend, capital has been growing particularly slowly relative to output since the turn of the millennium. That in part reflects weakness in investment growth in the first half of this decade (Section 3.2). But there

**Chart A** Net rate of return and profit share



- (a) The net rate of return is for non-oil and gas private non-financial corporations. It is the ratio of operating surplus (which includes UK trading profits), adjusted for capital consumption, to capital employed (including the value of inventories), also adjusted for capital consumption.
- (b) Bank estimate. Final output is defined as gross value added of the non-oil and gas private sector plus intermediate inputs. Profits defined as final output minus employees' compensation, intermediate inputs and alignment adjustments.

are clear signs that investment is recovering, and this should support the capital-output ratio going forward.

A further factor which may influence movements in the capital-output ratio is the recent increase in labour supply associated with higher migration and participation. Rising labour supply puts downward pressure on wages and makes an expansion in both capital and output more profitable. Typically, companies can increase output fairly quickly, but take time to build up their stock of capital. Higher migration may therefore contribute to a lower capital-output ratio in the short run. But, in the medium term, investment should respond to these pressures and the capital-output ratio should rise.

### Conclusion

The net rate of return and the profit share capture different concepts, and often move in different ways. But recently their trends have been particularly divergent, in large part reflecting developments in the capital-output ratio. In the MPC's central projection, business investment is expected to grow faster than GDP (Section 5). That may help reduce the gap between the net rate of return and the profit share somewhat, though other trends keeping the two measures apart — such as the falling relative price of capital goods — are expected to persist.

Equity prices have risen over the past year. Employment growth has been firm. And real incomes have been boosted by falls in gasoline prices.

### Asia

The gradual recovery in Japanese growth has continued. Although official estimates of GDP show subdued growth in 2006 Q2 and Q3, these data are typically subject to significant revisions. Surveys of business conditions, such as the Tankan, suggest a stronger performance over 2006. Growth in non-Japan Asia remained robust.

### Net trade

In the United Kingdom, official data suggested that net trade made a neutral contribution to growth in 2006 Q3, although the figures continued to be affected by missing trader intra-community (MTIC) fraud.<sup>(1)</sup> MTIC fraud is estimated to have fallen very sharply in the second half of 2006 pulling down on the headline trade data. But excluding this effect, annual growth of both imports and exports is also estimated to have fallen back in 2006 Q3 (**Chart 2.10**). The difficulties of adjusting for fraud mean that considerable uncertainties continue to surround the trade data.

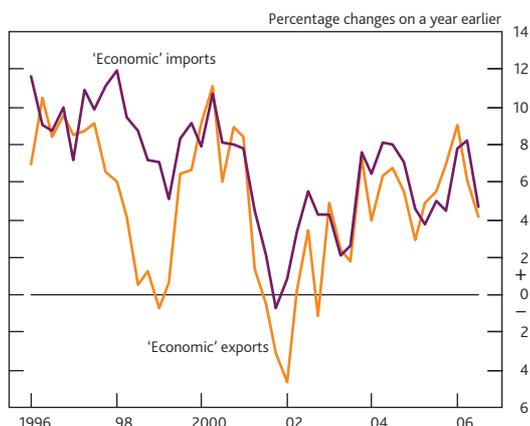
Trends in UK export performance are influenced by the performance of the world economy and by the real exchange rate. The real sterling exchange rate has risen recently. But, as discussed above, global growth has remained brisk, which should help to support UK exports. Survey evidence is consistent with this. For example, the January quarterly *CBI Industrial Trends Survey* reported a slight rise in the export orders balance.

For some time, UK imports have grown faster than total final expenditure (**Chart 2.11**). This trend is not unique to the United Kingdom, and reflects, in part, reductions in tariffs and falls in global transport costs. It also reflects relative price movements. In particular, improvements in technology and the integration of large pools of previously underused labour in other countries have driven down the price of imports relative to the price of domestically produced goods and services. This fall has led to a shift in demand towards cheaper imported goods.

Cyclical factors such as the mix of demand can also affect imports: investment spending tends to be more import-intensive than consumption spending (partly because services are much less import-intensive than goods). So the shift in the mix of domestic demand towards investment would tend to push up the import share.

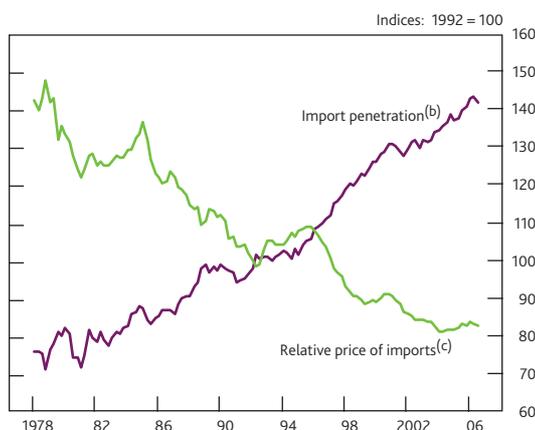
These trends are expected to continue over the forecast period, helping sustain reasonably strong growth in imports. The outlook for net trade more broadly is discussed in Section 5.

**Chart 2.10** Export and import volumes<sup>(a)</sup>



(a) Chained-volume measures, excluding the estimated impact of MTIC fraud.

**Chart 2.11** Import penetration and relative prices<sup>(a)</sup>



(a) Excluding the estimated impact of MTIC fraud.

(b) Ratio of the chained-volume measure of imports to the chained-volume measure of gross final expenditure.

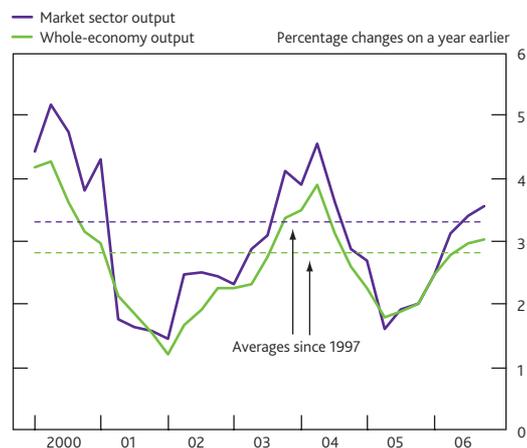
(c) Ratio of the import deflator to the gross final expenditure deflator.

(1) For a fuller discussion, see the box on pages 22–23 of the August 2006 Report.

# 3 Output and supply

UK output growth at the end of 2006 rose a little above the average of the past decade, supported by strong activity in the service sector. Business surveys suggest that output growth will remain robust in the near term. Capital growth has been weak in recent years, partly offsetting the impact of higher labour supply on potential output. Capacity utilisation within businesses remained tight. And the unemployment rate flattened off, perhaps indicating that slack in the labour market is no longer increasing.

**Chart 3.1** Measures of aggregate output growth<sup>(a)</sup>



(a) Market sector output is a Bank estimate. It excludes output that does not have a market-determined price, such as government-provided education. The 2006 Q4 estimate is constructed using information in the preliminary GDP release. Whole-economy output is the ONS measure of gross value added at basic prices.

## 3.1 Output

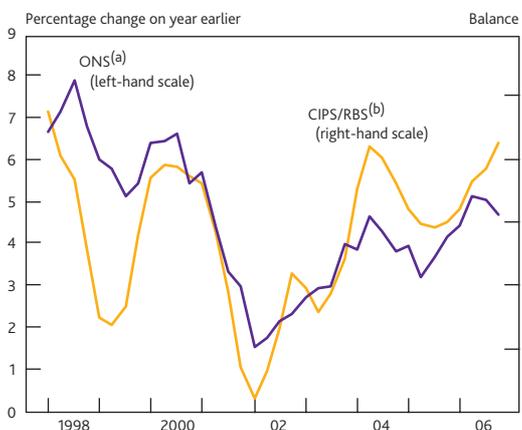
GDP at basic prices was provisionally estimated to have increased by 0.8% in 2006 Q4. That was broadly in line with expectations at the time of the *November Report*, and slightly stronger than the average growth rate in recent quarters. In assessing the pressures of demand on potential supply, the MPC looks at a range of measures of aggregate economic activity. These are discussed in the box on page 25. Market sector output — the output of sectors for which there is a market-determined price — is estimated to have grown by 3.5% in the year to 2006 Q4, above the 3% rise in whole-economy output during the same period (Chart 3.1). But growth rates of both measures were a little above their ten-year averages.

Output in the service sector — which accounts for three quarters of the whole economy — continued to grow at a healthy pace. It is provisionally estimated to have risen by 1.0% in 2006 Q4, a slightly stronger rate than the previous quarter. Much of the strength over the past year reflected buoyant activity in business services and finance. Output in those sectors increased by around 5% in the year to 2006 Q4.

As well as using the official ONS data, the MPC makes use of surveys when assessing the state of the economy. There are several surveys which cover the service sector, and they indicate strong growth in output. Indeed, the business activity index of the CIPS/RBS service sector survey rose to the highest level in almost ten years in 2006 Q4 (Chart 3.2), although it dipped slightly in January 2007. The general picture of service sector strength is also confirmed by the upbeat BCC survey in 2006 Q4 and reports from the Bank's regional Agents, whose contacts in the business services sector have been recording marked increases in turnover.

In contrast to the recorded strength in the service sector, manufacturing output was unchanged in 2006 Q4. This

**Chart 3.2** Indicators of private service sector output



Sources: CIPS/RBS and ONS.

(a) Bank estimate of private services. This excludes distribution, to be comparable to CIPS/RBS data, and represents 44% of aggregate gross value added in 2003.

(b) A reading above 50 indicates rising private service sector activity compared with the previous period. Average of the past four quarters.

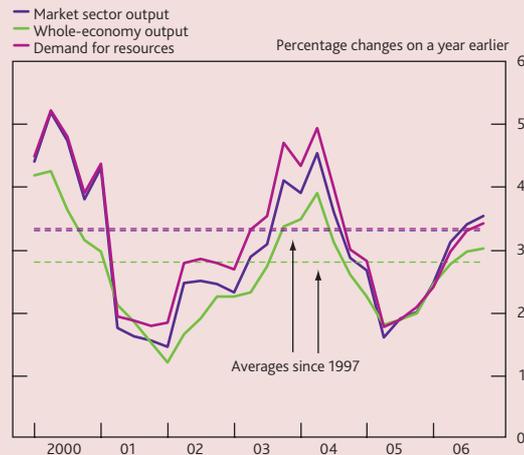
## Aggregate measures of activity

When assessing the outlook for inflation, movements in real GDP are commonly used to indicate changes in demand conditions. But GDP includes output that is not sold at a market-determined price, and therefore potentially gives an incomplete read on inflationary pressures. This box considers the issue in more detail, and presents other relevant indicators which the MPC uses in its assessment of aggregate demand pressure.

The prices that make up the consumer prices index (CPI) basket are largely set by market sector firms. So the prospects for CPI inflation are likely to depend on the balance of demand and supply pressures within the market sector of the economy. But assessing the output of the market sector raises a number of issues. One significant issue is the treatment of government demand.<sup>(1)</sup> While the public sector generally produces non-marketed goods and services (output which is free at the point of delivery, for example health and education), it does purchase market sector products in producing that output (for example medicines and school books). That 'procurement spending' needs to be added to private sector demand when calculating the output of the market sector. The Bank has been constructing such estimates for some time and the ONS has recently begun publishing experimental data on market sector activity.<sup>(2)</sup>

However, while useful, this market sector measure does not fully capture the pressure on resources arising from government spending. That is because the government also employs labour that would otherwise have been available to the market sector to produce goods and services. It is possible to construct a measure of the total 'demand for resources' which takes account of this by combining calculated market sector output with an estimate of what public sector workers could have produced had they worked in the private sector.

Chart A Measures of aggregate output growth<sup>(a)</sup>



(a) Whole-economy output is gross value added at basic prices. Bank estimates of market sector output and demand for resources. The 2006 Q4 estimates are constructed using information in the preliminary GDP release.

Both these measures are shown in **Chart A**, alongside whole-economy output.<sup>(2)</sup>

During the first half of this decade, the demand for resources generally grew faster than market sector output — suggesting greater aggregate demand than implied by the latter measure. That reflected the strong rates of expansion in public sector employment during this period (**Chart 3.12**).

More recently, as public sector employment growth has waned, the growth rates of market sector output and the demand for resources have converged. Nevertheless annual growth rates in all three output measures shown in the chart have picked up since the trough in the middle of 2005, and are close to, or slightly above, the averages of the past decade.

- (1) Quantitative measures of the resources used by government spending were first outlined in the box on pages 24–25 of the May 2004 *Inflation Report*. For a further discussion of the theory behind this see 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.
- (2) For a practical discussion of how these measures are constructed see Churm, R, Srinivasan, S, Thomas, R, Mahajan, S, Maitland-Smith, F and Tily, G (2006), 'Measuring market sector activity in the United Kingdom', *Bank of England Quarterly Bulletin*, Q4, pages 404–14.

Table 3.A Measures of manufacturing activity

	Averages since 1997	2006			2007 Jan.	
		Averages	Q2	Q3		Q4
ONS <sup>(a)</sup>	0.1	-0.5	0.9	0.7	0.0	n.a.
CIPS/RBS <sup>(b)</sup>						
Output	52.5	52.2	56.8	55.9	53.6	53.6
New orders	52.1	51.5	56.2	53.9	53.8	54.1
CBI <sup>(c)</sup>	4	4	12	13	8	12
BCC <sup>(d)</sup>	11	12	13	18	31	n.a.

Sources: BCC, CBI, CIPS/RBS and ONS.

- (a) Percentage change on a quarter earlier.  
 (b) A reading above 50 indicates increasing output/orders, and below 50 suggests falling output/orders. Averages of monthly indices.  
 (c) Percentage balances of respondents expecting 'higher' relative to 'lower' output in the next three months. Averages of monthly indices.  
 (d) Percentage balances of respondents reporting domestic sales to be 'up' relative to 'down' over the past three months.

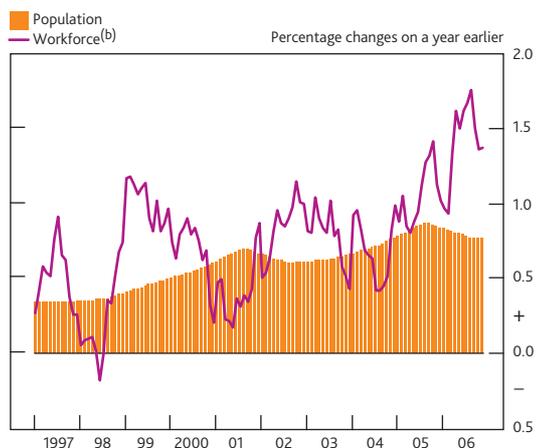
came after several quarters of strong growth. Recent surveys point to further expansion in the sector in the near term (**Table 3.A**).

## 3.2 Supply

### Labour supply

One key determinant of potential supply in an economy is the number of people available to work. The available workforce (defined as those aged 16 or over either in work or actively looking for work) has risen sharply in the past few years. Recent months have seen a slight deceleration (**Chart 3.3**), although these data are subject to revision as more information becomes available.

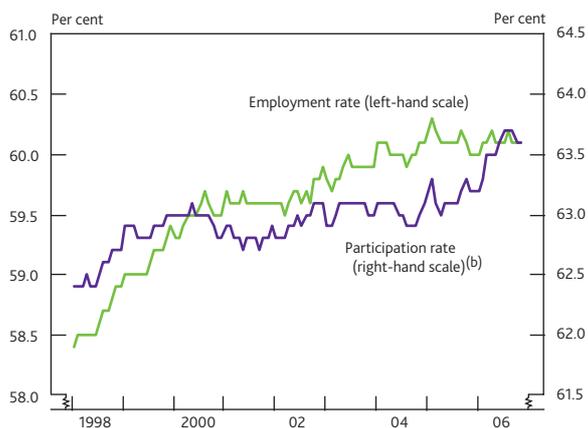
**Chart 3.3** Official estimates of population and workforce<sup>(a)</sup>



Source: Labour Force Survey.

- (a) Three-month moving average measures. Estimates for all aged 16 and over. Population data are interpolated using mid-year estimates and from mid-2005 are based on projections by GAD/ONS.  
 (b) Workforce defined as those already working and those actively looking for work.

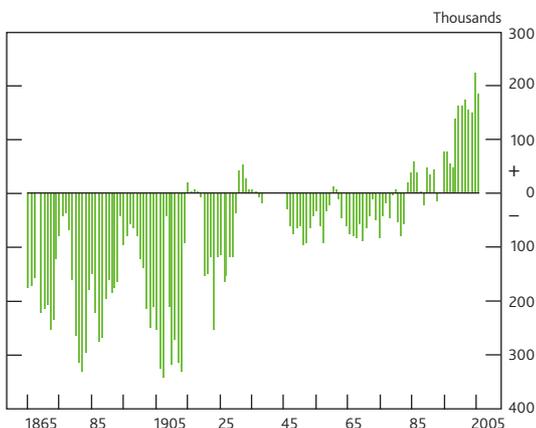
**Chart 3.4** Employment and participation rates<sup>(a)</sup>



Source: Labour Force Survey.

- (a) Three-month moving average measures. Percentages of working-age population.  
 (b) The percentage of the working-age population in the workforce.

**Chart 3.5** Estimated annual net migration to the United Kingdom



Sources: Data from 1855–1924 in *International Migrations*, Vol. 1, 1929, edited by Wilcox, W F (with introduction by Ferenzi, I), New York, National Bureau of Economic Research; data from 1925–64 in *Board of Trade Journal*, © Crown Copyright 2007. Both cited in Mitchell, B R (1988), *British Historical Statistics*, Cambridge University Press, pages 77–80. Data prior to 1964 show UK net flows from non-European countries to UK ports. There are some gaps in coverage. Data from 1964 onwards are ONS estimates.

Changes in the workforce reflect movements both in the estimated population and in the willingness and ability of that population to participate in the workforce. The participation rate has increased sharply in recent years (Chart 3.4), driven primarily by an increase in the numbers of older and female workers.<sup>(1)</sup> This rate has stopped rising in recent months, although short-term movements in this series can be erratic.

The sharp growth in the estimated workforce has also been partly due to strong inflows of migrant labour. Indeed, the current estimated net inflows are the highest on record since at least the 1860s (Chart 3.5). Accurate estimates of both migration and the domestic workforce are important in allowing the MPC to judge the amount of supply available in the United Kingdom and, in turn, the balance between this and the demand for goods and services.

Previous Reports have discussed issues with currently available data on migration, and in particular the uncertainties surrounding the International Passenger Survey (IPS), the main data source used by the ONS. The MPC is interested not only in the number of migrants who intend to stay for a period of one year or more (as measured in the IPS), but also in the number of shorter-term foreign workers.<sup>(2)</sup> A broader measure of the number of people present in the United Kingdom at any one time can be estimated using data on flows of people into and out of the country by air and sea. By applying these net flows to an earlier census of the population (in 1991), and including subsequent births and deaths, the number of people in the United Kingdom at any time can be estimated.

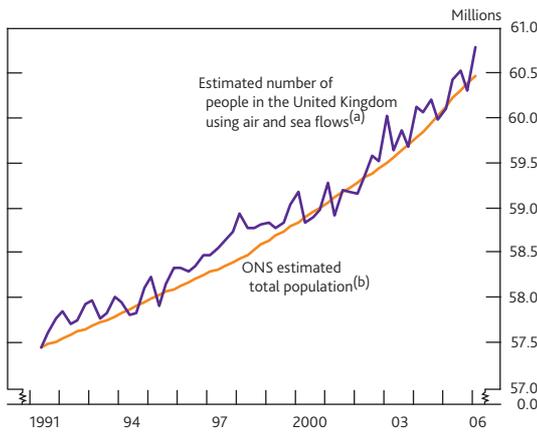
The estimates produced by this headcount method are shown in Chart 3.6, and compared to the official ONS population data. The latter includes migrants (those intending to stay for one year or more) but not net flows of short-term foreign workers, business travellers, tourists and other transient visitors who should be captured in the headcount data. There are two points to note. First, in recent years, the estimated headcount has been on average larger than the population (although it is important to note the considerable uncertainty surrounding these estimates). Second, the headcount has recently shown some seasonality, with notable declines in the fourth quarter of each year, probably reflecting the impact of travel over the Christmas and New Year holidays.

Aside from official data on migration, the MPC also makes use of reports from the Bank's regional Agents. The Agents recently conducted a survey on their contacts' use of migrant

(1) See page 26 of the August 2006 *Inflation Report*.

(2) The ONS has published plans to improve the migration data over the next few years by, for example, increasing the sample size of emigrants in the International Passenger Survey (IPS), and investigating the possibility of constructing estimates of short-term migration. See ONS (2006), *Inter-departmental Migration Task Force Report*.

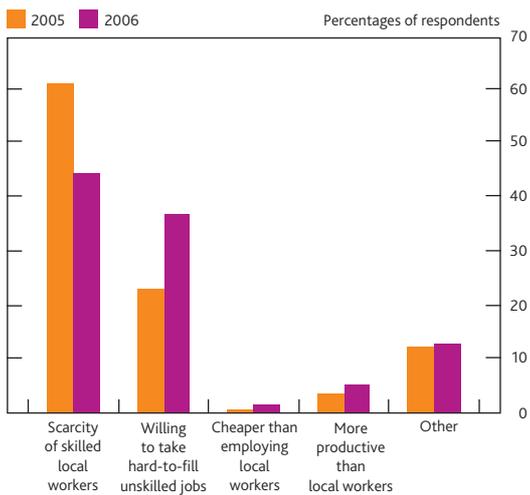
**Chart 3.6** Estimated population and headcount



Sources: Civil Aviation Authority — Airports Statistics and ONS.

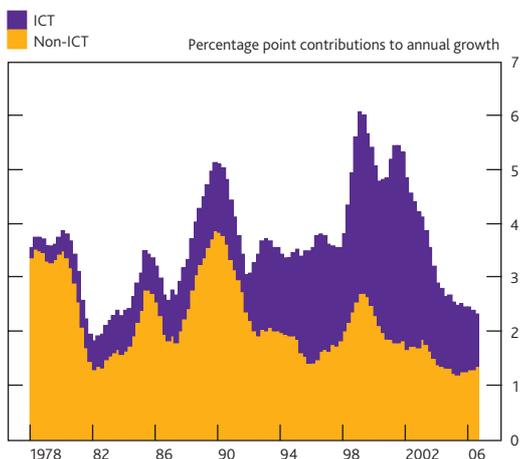
- (a) Quarterly net flows from the CAA/ONS data are added to the 1991 ONS census population estimate and adjusted for births and deaths. The data do not capture flows through the Channel Tunnel.
- (b) Based on interpolated mid-year population estimates.

**Chart 3.7** Agents' survey: main reasons for use of migrant labour<sup>(a)</sup>



- (a) Based on responses from surveys by the Bank's regional Agents in November 2005 and 2006, weighted by respondents' number of employees. There were 160 responses in 2006 and 159 in 2005.

**Chart 3.8** Private sector capital services<sup>(a)</sup>



- (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 a discussion of how these data are constructed.

labour, similar to that conducted a year ago.<sup>(1)</sup> The latest survey suggested a rise in the proportion of non-UK nationals in the workforce over the past year, with over 60% of firms (weighted by employees) expecting this to increase further in the year ahead. The industries with the largest proportions of migrant labour were agriculture and hospitality and catering, but on balance all sectors reported that they intended to make increased use of migrant labour over the next year. As with the previous survey, a scarcity of skilled workers and the willingness of migrants to take hard-to-fill unskilled employment were cited as the main reasons for employing non-UK nationals (Chart 3.7).

**Capital**

The amount of capital equipment available to the workforce is another important determinant of potential supply. One relevant measure of capital in judging productive potential in the economy is capital services, which weights together the private sector's capital assets using estimates of their contribution to output. Capital services are estimated to have grown by 2.3% in the year to 2006 Q3, well below the 3 1/2% average growth rate of the past 30 years (Chart 3.8).

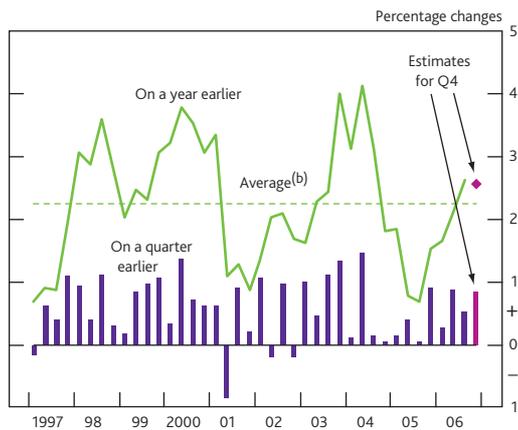
One reason for the relative weakness in capital growth is that the accumulation of new information and communications technology (ICT) assets is estimated to have been sluggish relative to the pace at which existing ICT assets have depreciated. But it also reflects subdued growth in other components of business investment since the millennium. That weakness may have reflected concerns over pension fund deficits, outsourcing of production, a capital overhang caused by excess investment in the late 1990s or economic uncertainty. The box on page 22 discusses the impact of slow growth of capital on profits-based measures. The recent acceleration in business investment (see Section 2), if sustained, should lead to an increase in the growth rate of private sector capital services.

The weakness in capital growth has implications for the growth of potential supply. While the sharp increase in the workforce in recent years will have acted to push up on potential supply, this will have been offset to a degree by the slow growth in capital.

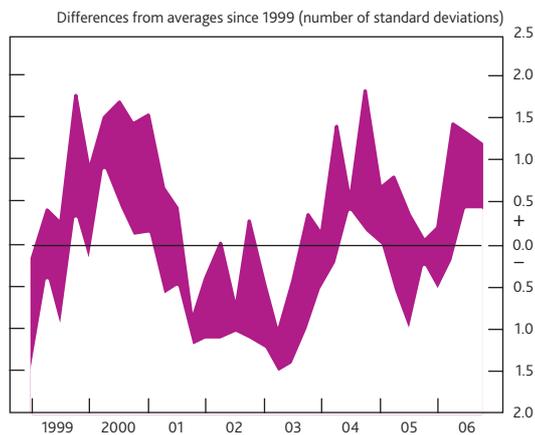
**3.3 Balance between output and potential supply**

In the short to medium term, inflation is influenced by the balance between the demand for private sector output and the supply available to meet that demand. That balance reflects, in turn, the degree of spare capacity within businesses and conditions in the labour market.

(1) Page 21 of the February 2006 Report discusses the 2005 survey.

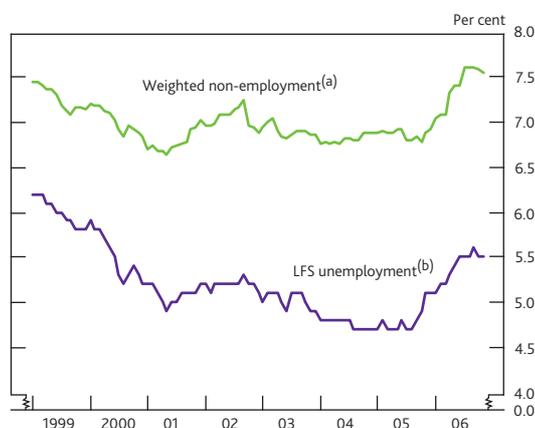
**Chart 3.9** Market sector output per worker<sup>(a)</sup>

- (a) Market sector output, as defined in Chart 3.1, divided by private sector employment. The employment data have been calculated by subtracting ONS general government employment from total LFS employment. The estimate for 2006 Q4 is constructed using information in the preliminary GDP release and the assumption that private sector employment in 2006 Q4 grew at the same rate as total employment in the three months to November.
- (b) Average annual growth since 1997.

**Chart 3.10** Measures of capacity utilisation<sup>(a)</sup>

Sources: Bank of England, BCC and CBI.

- (a) Three measures are produced by weighting together surveys from the Bank's regional Agents (manufacturing, services), the BCC (manufacturing, services), and the CBI (manufacturing, financial services, business/consumer services, distributive trades), using nominal shares in output. The chart shows the range between minimum and maximum readings in each quarter.

**Chart 3.11** Measures of labour market tightness

Sources: Labour Force Survey and Bank calculations.

- (a) Percentage of the working-age population. Three-month moving average measure. This measure weights together the different types of non-employed by a proxy of their likelihood of finding work based on transition rates into employment derived from the Labour Force Survey (LFS). Weights are backward-looking four-quarter moving averages of the quarterly transition rates of each group into employment. These weights have recently been updated.
- (b) Percentage of the economically active population. Three-month moving average measure.

### Capacity utilisation within businesses

As previous *Reports* have noted,<sup>(1)</sup> there is no single reliable measure of capacity utilisation. But indicators such as productivity and business surveys can provide an imperfect guide to recent developments.

Labour productivity measures the output businesses produce for a given amount of labour. When demand increases, firms are initially likely to make greater use of their existing employees and capital goods: this should result in a cyclical rise in labour productivity. So changes in labour productivity can provide some information on short-term movements in spare capacity.

Private sector labour productivity growth rates in the past few quarters have been slightly higher than the average of the past decade (Chart 3.9). As discussed in previous *Reports*, the pattern of labour productivity over the past few years mirrors that of output. During the short downturn of 2004–05, employers may have preferred to retain their existing employees rather than lay them off. Subsequently, they have worked these staff more intensively as demand has recovered.

Businesses' responses to survey questions about their current capacity pressures also provide useful information. But most surveys only cover part of the economy. These surveys can be weighted together to produce a range of illustrative measures of whole-economy capacity utilisation (Chart 3.10, see the footnote for detail). These measures suggest that current capacity utilisation lies above the average since 1999 (when the data from all the surveys are available) and near the previous peaks.

### Labour market tightness

Inflationary pressures are also affected by the balance between demand and supply in the labour market. A commonly used measure of tightness in the labour market is the unemployment rate. In recent months, the Labour Force Survey (LFS) unemployment rate appears to have flattened off, after rising since mid-2005 (Chart 3.11).

LFS unemployment is not the only indicator of the number of people available for work. But other measures also suggest that the labour market may no longer be weakening. The claimant count has remained at 3.0% for the past ten months, while the number of job vacancies stopped declining in the three months to December. A weighted non-employment rate, which takes account of the fact that other individuals, not currently active in the workforce, can sometimes enter directly into employment, has also levelled off (Chart 3.11).

A flattening of the unemployment rate does not necessarily mean that the degree of slack in the labour market has

(1) For a discussion of the alternative ways to measure capacity utilisation, see the box on pages 24–25 of the February 2005 *Report*.

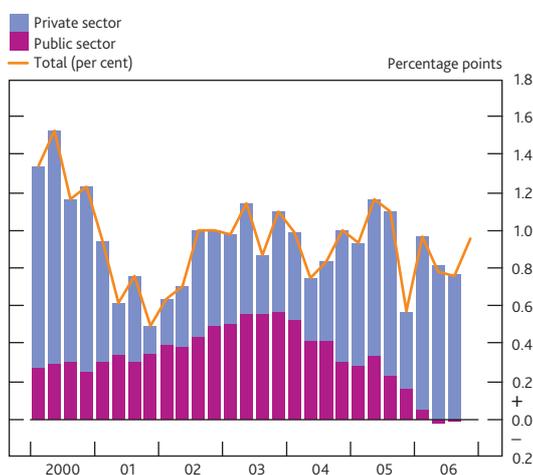
stabilised. That depends on why the unemployment rate has stopped rising. The November *Report* identified three possible reasons for the rise in unemployment since mid-2005: the increase in energy and other non-wage business costs; the impact of the earlier slowdown in demand in 2004–05; and the rise in labour supply. One explanation for the recent flattening in unemployment is that some of these influences have begun to unwind.

One possible factor explaining the rise in unemployment from mid-2005 was an adjustment by businesses to the sharp rises in energy and import prices. Ultimately, that adjustment requires a temporary slowing in the growth of real take-home pay to keep the growth in companies' real labour costs in line with productivity. If this adjustment is incomplete — for instance if employees have resisted the decline in real pay — companies may have cut back on employment growth. In the recent past, there has been a marked fall in the real consumption wage — employees' take-home pay relative to the price of goods and services they purchase — compared with productivity (Section 4.2). But it is not yet clear whether this process of adjustment to the past sharp rises in energy and import prices is complete.

The past rise in unemployment could also have reflected a lagged response to the weakness of demand in 2004–05. Aggregate employment growth was steady during much of 2006. Employment rose by 1% compared with a year earlier in the latest data (Chart 3.12), similar to the average growth since 1997. And the employment rate has been broadly unchanged (Chart 3.4). If demand growth continues at recent rates, companies could step up their hiring rates. Indeed, surveys of employment intentions are indicative of a pickup in recruitment. If these surveys are reflected in stronger employment growth, this could reduce the amount of labour market slack and remove some downward pressure on wage growth.

Another potential explanation for the rise in the unemployment rate in the recent past was the rapid growth in labour supply during 2005 and most of 2006. As discussed in Section 3.2, the growth in the labour supply (or workforce) may have slowed in the past few months. Indeed, in the three months to November 2006 compared with the previous three months, the estimated workforce declined slightly (by 14,000), although these data can be erratic. While the workforce still remains significantly larger than a year earlier, the slowdown in its rate of growth has probably accounted for part of the recent stability in the unemployment rate. This slowing may prove temporary, especially if high levels of inward migration continue, as suggested by, for example, the Bank's regional Agents' survey. However, if labour supply growth does continue to slow, and GDP growth remains firm, this could also reduce the slack in the labour market and remove some downward pressure on wage growth.

Chart 3.12 Contributions to annual employment growth<sup>(a)</sup>



Source: Labour Force Survey.

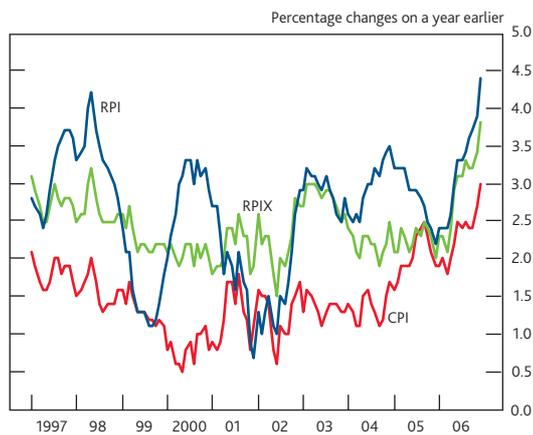
(a) Quarterly data. Latest figure is for the three months to November 2006.

To date, the flattening of the unemployment rate primarily seems to reflect a slowdown in the rate of growth of labour supply, rather than a pickup in labour demand. But any slowing in labour supply growth could prove temporary, especially if high levels of inward migration continue. And the implications for labour market conditions will also depend on the future path of labour demand. Labour market data are volatile and it is too early to draw firm conclusions. Overall, however, the degree of labour market slack is unlikely to have changed materially since the November *Report*. The outlook for labour market conditions is discussed in Section 5.

# 4 Costs and prices

CPI inflation rose to 3.0% in December. Survey measures of households' inflation expectations increased slightly. According to a survey by the Bank's regional Agents, and early indications from settlements data, pay pressures picked up a little. The upward pressure on companies' energy and imported costs eased over the past six months, following the sharp rise since 2004. Output price inflation has moderated since the middle of 2006 but forward-looking surveys suggest businesses have become increasingly confident in their ability to raise prices. The short-term outlook for CPI inflation is likely to be heavily influenced by developments in energy prices.

**Chart 4.1** Measures of consumer prices



## 4.1 Recent trends in CPI inflation

Consumer price inflation has picked up over the past year. CPI inflation — the measure targeted by the Bank of England — rose to 3.0% in December, its highest level since the official series began in 1997 (Chart 4.1).<sup>(1)</sup> The box on pages 32–33 outlines the factors behind that rise.

In the medium to long run, inflation is determined by monetary policy. But over shorter horizons, with slow adjustment in wages and prices, the outlook for inflation is also influenced by imbalances between the demand for private sector output and the resources available to supply it, as well as the way in which businesses respond to changes in key input costs. Inflation expectations play a central role at all horizons.

In recent years, the United Kingdom has experienced a significant cost shock. In particular, the prices of energy and imports have risen sharply. But the implications of these cost increases for overall inflation depend upon how those who set prices and wages respond. As the box discusses, both demand and cost pressures probably have a role to play in explaining the rise in inflation over the past year, although it is difficult to quantify the relative contribution of these two influences. Higher inflation expectations may also have been a factor.

The short-term outlook for consumer price inflation depends upon a number of factors. Labour costs are discussed in Section 4.2. But companies' costs also include the price of inputs such as energy and imported materials (Section 4.3). These costs, together with the extent to which companies are operating above or below normal capacity, will help determine

(1) For information on the inflation target, see the box on page 36 of the February 2004 *Inflation Report*.

## The rise in CPI inflation

CPI inflation has risen by more than 1 percentage point since early 2006. This box outlines the factors behind that rise.

### The response of inflation to a cost shock

In the medium to long run, inflation is determined by monetary policy. But over shorter horizons, with slow adjustment in wages and prices, the outlook for inflation is also influenced by imbalances between the demand for private sector output and the resources available to supply it, as well as the way in which businesses respond to changes in key input costs. Inflation expectations play a central role at all horizons.

In recent years, the United Kingdom has experienced a significant cost shock. The prices of some key business inputs — for example, energy and imports — have risen sharply since 2004. But higher costs do not automatically lead to higher headline inflation. The evolution of inflation depends upon how other prices respond.

When the prices of key business inputs rise rapidly, companies respond through some combination of bearing down on other costs (eg wages), reducing profit margins or raising prices. Companies who are most reliant on the inputs affected by the cost shock will be under the greatest pressure to act. But businesses' responses will also depend on the demand conditions in their markets. For example, companies selling to customers who are particularly price-sensitive will be unable to raise prices substantially without experiencing a large decline in sales. Those businesses may have to bear down on other costs, or accept lower margins, rather than raise prices.

But even if those companies most affected by higher costs put up their prices, this does not necessarily mean that there will be large movements in the aggregate inflation rate. For example, higher prices for energy-intensive products will squeeze the amount of income that consumers have available for spending on other goods and services. A fall in demand for those goods and services will put downward pressure on their prices, partially offsetting the inflationary impact of higher energy costs on overall inflation. The greater the degree of flexibility in the prices of non energy intensive goods and services, the less likely it is that an energy cost shock will have a persistent effect on aggregate inflation.

Inflation expectations also play a critical role in determining how price movements in certain parts of the economy affect aggregate inflation. If companies believe that inflation is likely to be higher in the future than in the past, they may be more inclined to raise prices. And if employees believe that future inflation will be higher, then they may try to negotiate higher wages in order to maintain their purchasing power. So it is

crucial that inflation expectations remain anchored to prevent inflationary pressure from building.

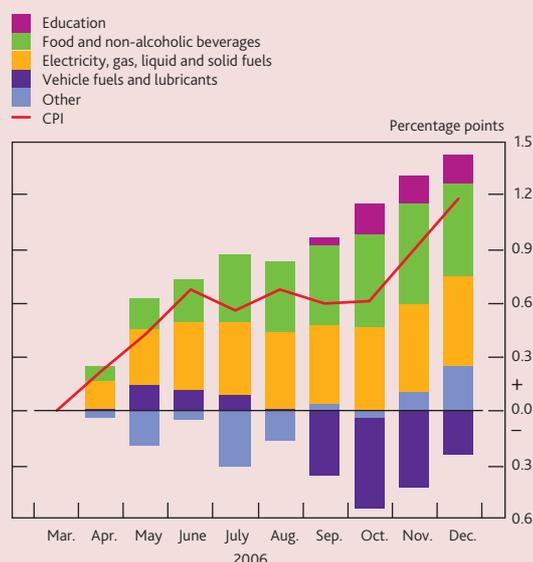
### Recent UK experience

UK CPI inflation rose from 1.8% in March 2006 to 3.0% in December 2006. That increase followed a period of rising cost pressures for UK companies. For example, in the twelve months to December 2005, manufacturers' raw material costs rose by around 18%.

In judging the appropriate level of Bank Rate, it is important for the MPC to understand how much of the rise in headline inflation reflects a one-off cost shock, and how much of it reflects a pickup in underlying pressures on demand, or a rise in inflation expectations. Unfortunately, there is no easy way of carrying out this decomposition.

In a purely accounting sense, the energy utilities and food sectors made the largest contributions to the rise in inflation over the past year (**Chart A**). But this does not mean that increases in these prices caused the pickup in headline inflation: it is unclear what would have happened to the overall inflation rate had the cost shock not occurred.

**Chart A** Contributions to the rise in CPI inflation since March 2006<sup>(a)</sup>



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

To some extent, the higher costs of energy and food have been offset by the mechanisms described above. Businesses have put downward pressure on their wage costs and reduced profit margins to offset rising non-wage costs (see the box on pages 30–31 of the November *Report*). And higher energy and food prices have squeezed households' real incomes (Section 2.1), putting downwards pressure on the prices of other goods and services. But overall these offsets have not

been large enough to counterbalance the impact of higher prices in the food and energy sectors on aggregate inflation. It is possible that this simply reflects the practical difficulties of adjusting wages and prices quickly in some sectors. But to some extent it probably also reflects the pace of demand growth and a rise in short-term inflation expectations. Business surveys suggest that companies have become more confident of securing price rises in recent months, particularly in the consumer sector (Section 4.4).

Overall, the United Kingdom has experienced substantial movements in the prices of key business inputs in recent years. But the implication for aggregate inflation depends upon the response of other prices. Both demand and cost pressures probably have a role to play in explaining the rise in inflation over the past year, although it is difficult to quantify the relative contribution of these two influences. Higher inflation expectations may also have played a role. The implications of this assessment for the inflationary outlook are considered in Section 5.

companies' output prices (Section 4.4). Section 4.5 summarises the short-term outlook for CPI inflation.

## 4.2 Labour costs

A key influence on labour costs is the degree of slack in the jobs market (Section 3). In the recent past, an additional influence has been the response of companies and employees to the sharp rise in non-wage costs since the start of 2004. This section discusses that adjustment process in more detail, before turning to movements in labour costs since the November *Report* and the short-term outlook.

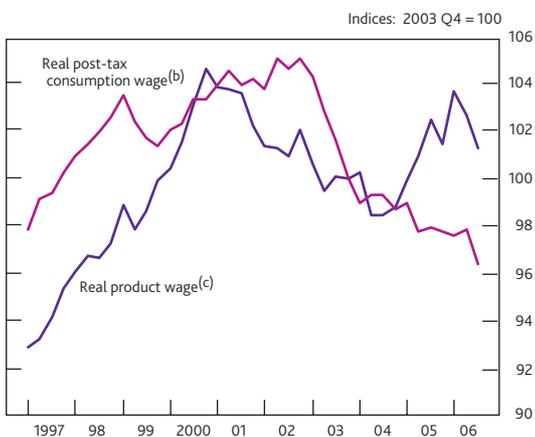
### Influences on labour costs

Companies have faced rising non-wage cost pressures in recent years. The costs of imported and energy-intensive inputs have risen since 2004, and pension obligations have increased. As discussed in previous *Reports*, companies typically react to rises in one component of their costs by pushing down on other parts of their cost base — for example, their wage bill — and trying to raise the prices that they charge their customers.<sup>(1)</sup> That implies a temporary slowing in the growth of wages relative to the prices of goods and services.

Both employers and employees are concerned with movements in real wages. Employers care about the 'real product wage' — the price of companies' labour relative to value added in the production process. But, in bargaining over nominal pay, employees will be concerned with the purchasing power of their post-tax earnings over goods and services — the 'real consumption wage'.

In the long run, the real consumption wage and the real product wage should grow in line with productivity. But, during an adjustment to a change in non-wage costs, these growth rates will diverge. The real product wage rose rapidly relative to productivity from late 2004 (Chart 4.2). In part, that reflects short-term cyclical variations in productivity growth (Section 3). However, it also partly reflects the squeeze on the price of value added imposed by the sharp increase in non-wage costs. Companies have tried to offset

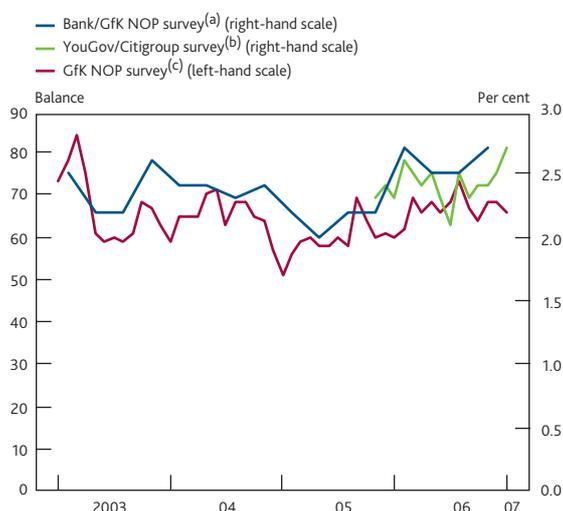
**Chart 4.2 Real wages relative to productivity<sup>(a)</sup>**



- (a) Bank estimates. Productivity is calculated from ONS data on non-oil and gas private sector output divided by private sector employment.  
 (b) Household post-tax wages and salaries per head divided by the consumption deflator. Includes non-profit institutions serving households.  
 (c) Total compensation of employees per head divided by the gross value added (GVA) deflator of the non-oil and gas private sector (Bank estimate).

(1) See the box on pages 30–31 of the November 2006 *Inflation Report*.

**Chart 4.3** Surveys of households' inflation expectations over the next twelve months



Sources: Bank of England, Citigroup, GfK NOP, YouGov and research carried out by GfK NOP on behalf of the European Commission.

- (a) Median of respondents' expected change in shop prices over the next twelve months.  
 (b) Median of respondents' expected change in consumer prices of goods and services over the next twelve months.  
 (c) Net balance expecting prices to increase. The question asks: 'in comparison with the past twelve months, how do you expect consumer prices will develop in the next twelve months?'

**Table 4.A** Private sector earnings<sup>(a)</sup>

Percentage changes on a year earlier

	Averages <sup>(b)</sup>	2006				
		Q2	Q3	Oct. <sup>(c)</sup>	Nov. <sup>(c)</sup>	Dec. <sup>(c)</sup>
(1) Regular pay	4.2	4.2	3.6	3.9	3.9	n.a.
(2) Pay settlements	3.3	3.1	3.3	3.3	3.4	3.5
(1)-(2) Pay drift <sup>(d)</sup>	0.8	1.1	0.3	0.6	0.5	n.a.
(3) Total average earnings	4.3	4.5	4.0	4.2	4.2	n.a.
(3)-(1) Bonus contribution <sup>(d)</sup>	0.1	0.3	0.4	0.3	0.3	n.a.

Sources: Bank of England, Incomes Data Services, Industrial Relations Services, the Labour Research Department and ONS.

- (a) Based on the average earnings index.  
 (b) Between 1998 and 2005.  
 (c) Three-month average measures.  
 (d) Percentage points.

these higher non-wage costs via a combination of lower growth in take-home pay and higher prices, contributing to a fall in the real consumption wage relative to productivity.

There may be a little more downward pressure on the real consumption wage as companies continue to adjust to the large rise in non-wage costs seen since the start of 2004. But the remaining degree of adjustment is likely to be smaller than required three months ago: the real consumption wage has eased further relative to productivity, and the falls in oil and gas prices have relieved some of the pressures on non-wage costs (Section 4.3).

It is possible that employees may seek to resist the recent fall in the growth of their real consumption wage by seeking larger pay rises in the coming year. Different companies agree wage settlements at different times of the year. But estimates suggest that around half of private sector employees covered by settlements have their settlement agreed between January and April. So any signs of resistance to the downward pressure on real consumption wage growth may become particularly apparent during the current pay round, discussed below.

Inflation expectations of companies and their employees play an important role in the adjustment process, and in shaping the prospects for labour costs more generally. These expectations cannot be observed directly. But surveys of household inflation expectations provide one indirect measure.

Since the November *Report*, there has been a slight increase in households' expectations for inflation over the next twelve months, according to some surveys (Chart 4.3). Both the Bank/GfK NOP and YouGov/Citigroup surveys have recorded an increase in inflation expectations. And the Bank/GfK NOP measure was on average around half a percentage point higher in 2006 than in 2005. However, the separate GfK NOP measure has been little changed in recent months. Short-term expectations may have been influenced by recent increases in both CPI and RPI inflation, and could put upwards pressure on settlements in the current pay round.

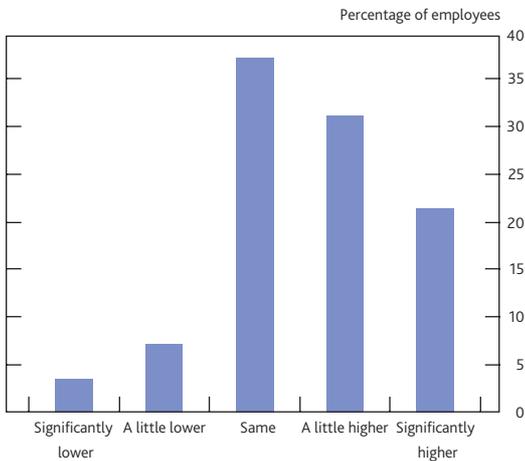
### Recent developments in labour costs

A key indicator of inflationary pressures in the labour market is pay growth in the private sector, which accounts for 80% of total employment. Private sector regular pay growth, which excludes bonus payments, increased a little in late 2006, but remained below its recent historical average (Table 4.A). The increase in regular pay growth partly reflected a rise in pay drift, which captures elements such as merit pay increases and overtime payments, and tends to follow the economic cycle. But private sector pay settlements also edged higher.

There is limited information so far as to whether employees have responded to rising inflation and the squeeze on real take-home pay by seeking larger pay rises during the current pay round. Initial reports from Incomes Data Services and

Industrial Relations Services suggest that settlements may have picked up modestly at the start of 2007. And a survey by the Bank's regional Agents, conducted in December and January, found that a net balance of contacts expected to award a higher settlement this year than in 2006. The average expected settlement for 2007 was 3.4%, broadly in line with the level of settlements at the end of 2006 shown in **Table 4.A**, but 0.2 percentage points above the average for 2006 as a whole. Contacts expected the rise in settlements to feed through to an increase in total labour cost growth (**Chart 4.4**). Respondents suggested that the expected pickup in labour cost growth in 2007 reflected the higher level of inflation and difficulties in the recruitment and retention of staff. But some of this impact was expected to be offset by improvements in labour productivity.

**Chart 4.4** Agents' survey: total expected labour cost growth in 2007<sup>(a)</sup>



(a) Based on 457 responses to a survey of companies by the Bank of England's regional Agents in December 2006 and January 2007, weighted by respondents' number of employees. The survey asked respondents: 'in the next twelve months, how do you expect the annual percentage change of total labour costs per employee to compare with the previous twelve months?'

According to the survey, companies plan to continue to make greater use of forms of compensation other than settlements, such as one-off bonus payments. And current bonus payments may also be influenced by the firm pace of demand growth. Anecdotal reports suggest that bonus payments have increased at the start of 2007 relative to a year earlier, particularly in the financial sector.

The implications of bonus payments for companies' pricing decisions are unclear. Bonuses may be a way for companies to make pay more flexible, thereby making it easier to respond to changes in costs. Or they may be a way to reward past performance in a way that does not commit companies to paying higher wages in the future. But if bonuses this year have been set to improve staff retention in response to labour market conditions, a rise in bonus payments may signal rising growth in underlying labour costs.

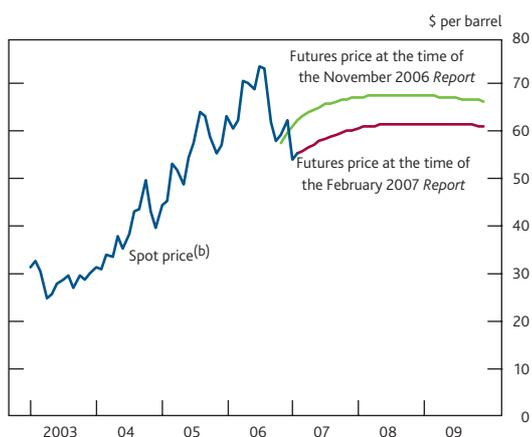
Overall, early evidence suggests that private sector labour cost growth has picked up a little in recent months.

In the public sector, headline average earnings annual growth eased to 3.2% in the three months to November from the recent peak of 5.7% in mid-2005. The outlook for public sector pay growth will be influenced in part by the outcome of a number of important public sector pay settlements that are pending. In addition, public sector pay growth will also be influenced by the resolution of a number of equal pay reviews within local authorities, although there is considerable uncertainty about the eventual size of these claims.<sup>(1)</sup>

### 4.3 Global costs and prices

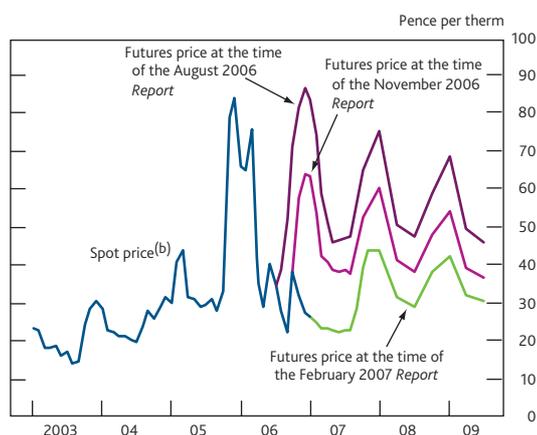
Global costs and prices — in particular, rising prices for energy and imports — have had a substantial impact on the costs faced by UK companies in the recent past. More recently, those pressures have begun to subside.

(1) See 'Unlocking the route to equal pay in local Government', [www.lge.gov.uk/lge/aio/60274](http://www.lge.gov.uk/lge/aio/60274).

**Chart 4.5** Brent crude oil prices<sup>(a)</sup>

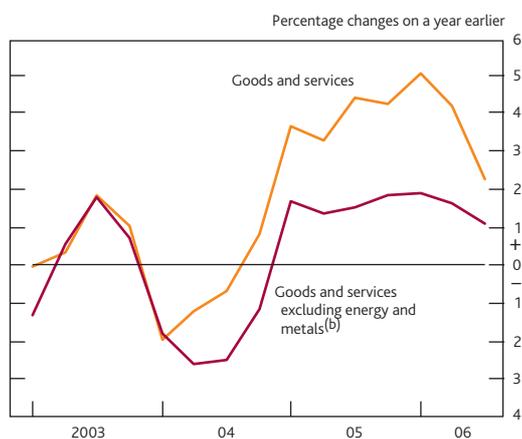
Sources: Bloomberg and Thomson Financial Datastream.

- (a) Monthly averages of daily data. Futures prices and spot data for February are averages during the fifteen working days to 7 February. The equivalent data for the November Report are averages during the fifteen working days to 8 November.  
 (b) Forward price for delivery in 10 to 21 days' time.

**Chart 4.6** UK wholesale gas prices<sup>(a)</sup>

Sources: Bloomberg, International Exchange ([www.theice.com](http://www.theice.com)) and Reuters.

- (a) Futures prices and spot price data for February are averages during the fifteen working days to 7 February. The equivalent data for the November and August Reports are averages during the fifteen working days to 8 November and 2 August respectively. The spot price data, and the futures prices to late 2007, are monthly averages of daily data. Thereafter, futures prices have been interpolated from quarterly data.  
 (b) One-day forward price of UK natural gas.

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

- (a) Excludes the impact of missing trader intra-community (MTIC) fraud.  
 (b) Excludes fuels, electricity, metalliferous ores, iron and steel, non-ferrous metals and other manufactures of metal.

Oil prices have fallen back sharply since the summer of 2006 (**Chart 4.5**). The price of Brent crude oil was \$55 per barrel in the fifteen working days to 7 February, 3% below the starting point for the November Report and 30% below the August 2006 peak. And the futures curve over the next three years — used to guide the MPC's assumed path for oil prices — was around 10% lower on average. Lower oil prices reflect a combination of weaker demand following warm winter weather in the northern hemisphere and higher-than-expected stock levels, more than offsetting cuts in OPEC supply.

Unlike in previous winters — when gas prices have typically risen in response to increased demand — wholesale gas prices have fallen in recent months (**Chart 4.6**), probably reflecting the relatively mild weather. And wholesale gas price futures have fallen sharply. In part, that reflects improvements in the United Kingdom's import capacity following the completion of a number of infrastructure projects (for example, the opening of the Balgzand-Bacton pipeline between the Netherlands and the United Kingdom). The implications for retail gas prices are discussed in Section 4.5.

The upward pressure on business costs from rising import prices has also eased somewhat (**Chart 4.7**). Recent trends in import price inflation have been heavily influenced by movements in commodity prices. But, stripping out the direct effect of energy and metals prices, underlying import price inflation has also moderated. That is likely to reflect both the appreciation of sterling and the impact of lower energy prices in reducing the production cost of other imports.

Falling energy prices, and weaker import price inflation, have already begun to show up in measures of UK companies' input prices. In the manufacturing sector, annual input price inflation fell from around 15% at the start of 2006 to 2% in December. And the net percentage of companies reporting higher input prices in the CIPS services survey fell during the second half of 2006.

## 4.4 Output prices

The price that a company charges for its product depends in part on its production cost, and in part on its perception of how willing customers are to bear higher prices. The recent fall in input price inflation has lessened the upward pressure on companies' costs. Some companies in the energy-intensive sector have already passed some of these lower non-wage costs through to their output prices. In the manufacturing sector, headline annual output price inflation has fallen by around 1 percentage point since the middle of 2006. And annual services producer price inflation has also fallen over the past year.

But, after stripping out the direct effect of lower energy prices, this easing in output price inflation is less apparent. For

**Table 4.B** Manufacturing and service sector output prices

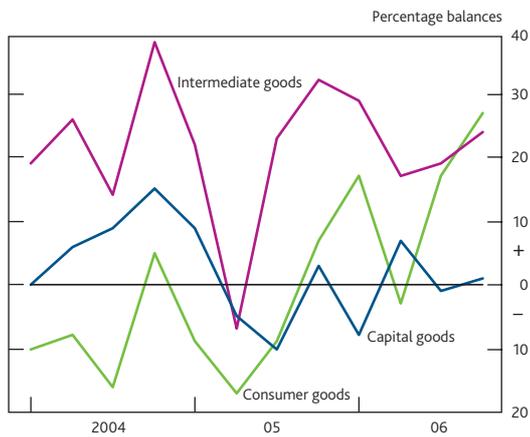
	Correlations <sup>(a)</sup>	2006			
		Q1	Q2	Q3	Q4
<b>Manufacturing</b>					
ONS manufacturing (excluding food, beverages, tobacco and petroleum) <sup>(b)</sup>	1.00	0.7	0.9	0.4	0.5
CBI — forward looking <sup>(c)</sup>	0.64	11	6	12	19
BCC — forward looking <sup>(c)</sup>	0.65	22	21	32	39
<b>Services</b>					
Services producer price index <sup>(b)</sup>	1.00	0.9	0.8	0.6	n.a.
BCC — forward looking <sup>(c)</sup>	0.64	27	15	28	36

Sources: BCC, CBI and ONS.

(a) Correlations since 1998. Manufacturing sector correlations are with manufacturing producer price inflation excluding food, beverages, tobacco and petroleum. Service sector correlations are with the services producer price index. The surveys are lagged by one quarter in the correlation.

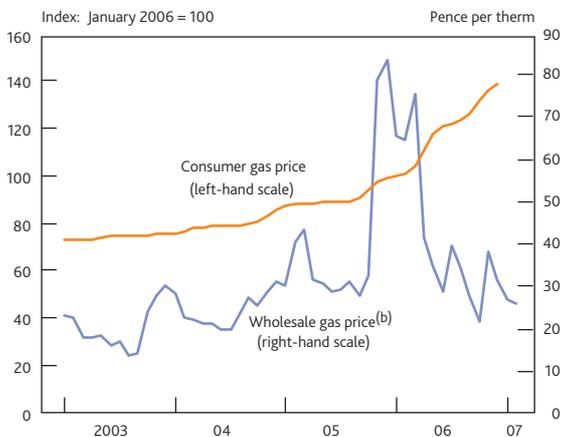
(b) Seasonally adjusted quarterly inflation rate of net sector measures. Services producer price index is seasonally adjusted by Bank staff.

(c) Net percentage balance of respondents expecting to raise prices over the next three months. BCC data are non seasonally adjusted.

**Chart 4.8** Manufacturers' output prices expectations<sup>(a)</sup>

Source: CBI.

(a) Percentage balance of respondents within each sector reporting an expected rise in the price at which domestic orders are booked over the next three months.

**Chart 4.9** UK wholesale and domestic gas prices<sup>(a)</sup>

Sources: ONS and Thomson Financial Datastream.

(a) Non seasonally adjusted monthly data.

(b) Monthly average of one-day forward price of natural gas. The observation for February is an average during the fifteen working days to 7 February.

example, the fall in manufacturing sector output price inflation excluding food, beverages, tobacco and petroleum has been less marked than the headline measure. And the CIPS/RBS survey suggested that, in January 2007, service sector output prices were rising at their fastest pace since the middle of 2006.

Against a background of solid demand growth and increasing capacity pressures during 2006, companies may now believe that they are able to raise prices by a little more than previously. Survey data point to further expected rises in output prices in the manufacturing and services sectors in coming months (**Table 4.B**). According to the quarterly *CBI Industrial Trends Survey*, the net percentage balance of manufacturing companies expecting to raise prices over the next three months picked up in the January 2007 survey and is well above its ten-year average. Much of this reflects a sharp rise in the pricing expectations of businesses in the consumer goods sector (**Chart 4.8**). The prices charged by these companies are likely to be most closely related to consumer goods price inflation. In the services sector, the net percentage of respondents to the 2006 Q4 BCC survey expecting to raise prices was at its highest level since the series began in 1997.

#### 4.5 Short-term outlook for consumer prices

Looking forward, the short-term outlook for CPI inflation is likely to be heavily influenced by developments in energy prices. Domestic petrol prices have already fallen in response to the decline in wholesale oil prices and are below their levels in early 2006. Assuming that oil prices stay reasonably close to current levels, annual petrol price inflation will be negative in the coming months, putting downward pressure on annual CPI inflation.

Domestic gas and electricity prices picked up sharply in early 2006 following past rises in wholesale energy prices (**Chart 4.9**). Indeed, annual gas and electricity price inflation more than doubled in the first six months of 2006, to almost 30%. Even without any price cuts, retail gas and electricity prices would be expected to pull down on CPI inflation this year as the substantial increases a year earlier drop out of the annual comparison.

In addition, there is likely to be further downward pressure on gas and electricity prices as retail prices react to the recent fall in wholesale energy prices. The first announcements of planned reductions in prices have been made recently, but information on the likely response of the rest of the industry, and the possibility of further cuts in the future, was very limited at the time the MPC finalised its projection.

Section 5 discusses the factors underpinning the MPC's inflation projection.

# 5 Prospects for inflation

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The MPC's central projection, assuming that Bank Rate follows a path implied by market yields, is for continued solid growth in GDP at a rate close to its average over the past decade. The central projection for CPI inflation remains above target in the near term and then falls back, settling around the 2% target over the medium term. There is greater-than-usual uncertainty over the outlook for inflation, particularly in the near term, when inflation volatility is likely to be pronounced. As usual, there are risks on both sides of these projections, in particular: the near-term outlook for retail gas and electricity prices; the relative influence on wages and prices of demand and non-wage costs; the behaviour of inflation expectations; and the degree of spare capacity in the economy. The risks to growth are judged to be balanced, while those to inflation are weighted to the downside in the near term and to the upside in the medium term.

## 5.1 The outlook for demand

During 2006, GDP grew steadily at around its average rate over the past ten years. The central projection is for continued solid growth over the forecast period, underpinned by an ongoing expansion in consumption and investment spending.

### Consumer spending

As discussed in Section 2 of this *Report*, underlying consumer spending appears to have accelerated gently over the past 18 months or so, despite some volatility in the quarterly data. And sales over the Christmas and early New Year period exceeded retailers' expectations, according to reports from the Bank's regional Agents and business surveys. The MPC expects consumption to grow broadly in line with its long-term historical average rate over the forecast period — a similar outlook to that in the November *Report*. But growth is a little higher in the near term, reflecting a projected recovery in real labour income growth, and buoyant house price inflation in late 2006. Further out, consumption growth eases back a little, under the continuing influence of a higher level of market interest rates, a rise in the effective tax rate, and the waning effects of higher house prices.

There are risks on both sides of this outlook. On the upside, the decline in energy price inflation and possible increases in wage growth may provide a bigger boost to current and expected future real take-home pay. And the most recent strength in spending may prove to be more persistent, fuelled perhaps by continued strong growth in money, credit and asset prices. But on the downside, the combination of higher interest rates and a rising debt stock may act as more of a drag on spending than in the central case.

### Private sector investment

Business investment growth rebounded strongly in the first three quarters of 2006, and is expected to continue to outpace GDP growth over the forecast period. As Section 3 of this *Report* discusses, estimated capital growth in UK businesses has fallen in recent years, in part reflecting the cumulative impact of past low investment. Companies may have been unwilling to invest heavily over that period because of uncertainties about the outlook for demand, rising non-wage costs, or an overhang from the rise in investment ahead of the millennium. Subdued growth in the stock of capital equipment is one factor behind the pickup in measures of capacity utilisation within companies as demand recovered during 2006.

Against the background of a gradual rise in business optimism, companies appear to be responding to these intensifying capacity pressures by raising their investment spending. The precise strength of underlying investment growth remains uncertain, not least because official data on business investment are volatile and prone to substantial revision. But recent developments are consistent with other determinants of real investment spending, including the falling relative price of capital goods, high measured rates of return and the strong liquidity position of the corporate sector as a whole. With the investment climate expected to remain broadly supportive, the ratio of business investment to GDP in the central projection rises throughout the forecast period, and ends up somewhat higher than in the November *Report*. As always, there are considerable uncertainties around this profile in both directions.

### Government spending

In forming its projections, the MPC has assumed that nominal government spending and effective tax rates will evolve broadly in line with the plans outlined in the Government's recent *Pre-Budget Report*. Those plans involve some modest changes in the path and composition of spending; nevertheless they imply that overall nominal government spending will continue to grow at a firm, but gradually declining, pace over the forecast period.

### External demand and UK trade

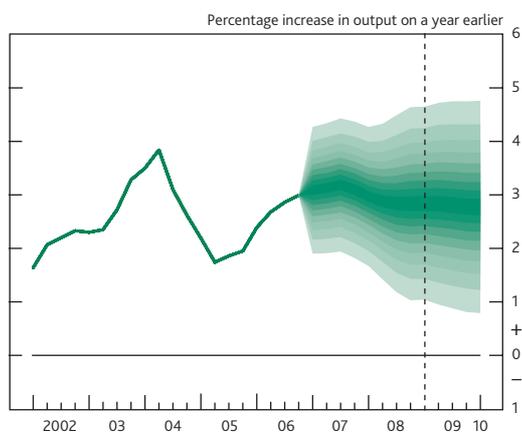
The outlook for global demand growth remains robust, and the downside risks have diminished somewhat. In the euro area, the United Kingdom's largest trading partner, the economic recovery in 2006 proceeded broadly as expected. Recent quarters have seen signs of a pickup in consumption growth, although the impact of January's increase in VAT rates in Germany — the euro area's largest member — poses a key near-term uncertainty. Over the medium term, the MPC's central projection assumes that euro-area GDP will grow broadly in line with recent historical averages as consumption growth becomes more sustained, underpinned by an improvement in labour market conditions.

In the United States, growth rebounded in the fourth quarter of 2006 by a little more than expected. The retrenchment in the housing market has begun to show signs of levelling off; and consumption — cushioned by robust employment growth, lower energy prices and strong financial wealth — has held up well. Though some downside risks to overall growth remain, the likelihood of their occurring is judged to have diminished since November. The central projection assumes that GDP growth will remain steady over the forecast period, at a little below the recent historical average. Growth in the rest of the world is expected to remain robust.

Overall, the MPC's central projection assumes that UK-weighted world GDP will grow at a rate only slightly below the average of the past three years, easing back modestly over the forecast period. UK exporters' share of world markets is projected to fall a little, reflecting the rise in the real exchange rate over the past year, and the MPC's usual assumption of a trend decline as countries in Asia and elsewhere become better integrated into the global economy. But, with UK exporters assumed to absorb part of the rise in sterling in lower profit margins, and with the downside risks to world growth having diminished somewhat, export growth is expected to be sustained at a rate close to the longer-term average. That is similar to the outlook in the November *Report*.

Despite the strength of export growth over the past year, net trade — the balance of exports and imports — is expected to have reduced GDP growth during 2006. The trade data remain clouded by VAT fraud. But import growth does appear to have strengthened in 2006 as a whole, consistent with the recovery in import-intensive components of domestic demand, in particular investment. With domestic demand growth projected to remain at or above recent rates for much of the forecast period, and import prices projected to fall, the growth in import volumes remains reasonably strong in the central projection. Net trade is therefore projected to make a modest negative contribution to GDP growth over most of the forecast period. That is a slightly weaker outlook than in the November *Report*, reflecting the further appreciation of sterling, and the stronger projection for investment.

**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 outcomes 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.

### The GDP projection

The MPC's projection for four-quarter GDP growth is shown in **Chart 5.1**. The projection assumes that Bank Rate follows a path implied by market yields. The MPC's financial and energy market assumptions are described in more detail in the box on page 41.

The central projection is for continued steady growth in GDP, edging down slightly towards the end of the forecast period as household consumption and government spending slow. As in the November *Report*, average GDP growth over the forecast period as a whole remains close to its average rate over the past decade. Growth in the first part of the projection lies a

## Financial and energy market 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 Bank Rate implied by market yields<sup>(a)</sup>

Per cent	2007				2008				2009				2010
	Q1 <sup>(b)</sup>	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1
February	5.3	5.5	5.6	5.6	5.5	5.5	5.5	5.4	5.4	5.4	5.3	5.3	5.3
November	5.1	5.1	5.2	5.1	5.1	5.1	5.1	5.0	5.0	5.0	4.9	4.9	

(a) The data are fifteen-day averages of one-day forward rates to 7 February 2007 and 8 November 2006 respectively. They 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.

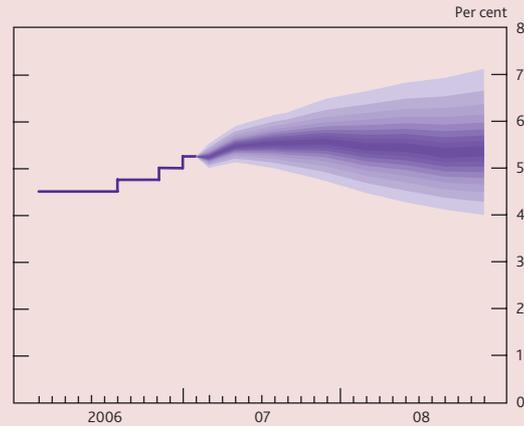
(b) February figure for 2007 Q1 is an average of realised spot rates to 7 February, and forward rates thereafter.

On average, in the fifteen days leading up to the MPC's February decision, the market yield curve implied that financial market participants expected Bank Rate to peak in the second half of 2007, before easing very gradually back. The profile is above that expected in November. **Chart A** uses information from option prices to provide an approximate indication of market participants' uncertainty about the future path of official interest rates ahead of the MPC's decision on 8 February. The chart suggests that market participants believed that a wide variety of outturns was possible.

The starting point for the sterling exchange rate index in the MPC's projections for GDP growth and CPI inflation was 106.1, the average for the fifteen working days to 7 February. That was 2.5% above the starting point for the November forecast. Under the MPC's usual convention,<sup>(2)</sup> the exchange rate is assumed to depreciate to 104.3 by 2009 Q1, but is higher throughout the forecast period than assumed in November.

The starting point for UK equity prices in the MPC's projections was 3245 — the average of the FTSE All-Share for the fifteen

**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 7 February, 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 Euronext.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 of future policy rates as it is based on Libor instruments, and is estimated on the assumption that investors are risk-neutral.

working days to 7 February. That was 2.6% above the starting point for the November forecast. Equity prices are expected to rise broadly in line with nominal GDP over the forecast period.

The starting point for the price of Brent crude oil was \$55 per barrel in the fifteen working days to 7 February. That was 3% lower than the starting point for the November forecast. The starting point for wholesale gas prices was 26 pence per therm in the fifteen working days to 7 February, 19% lower than the starting point in November. Energy prices are expected to evolve broadly in line with the path implied by futures markets, but there are key uncertainties about the scale and pace of pass-through to the prices of gas and electricity faced by households and companies. The central projection assumes that, taken together, retail gas and electricity prices fall by around 20%, spread evenly over four quarters from 2007 Q2. The risks around this are discussed in Section 5.2.

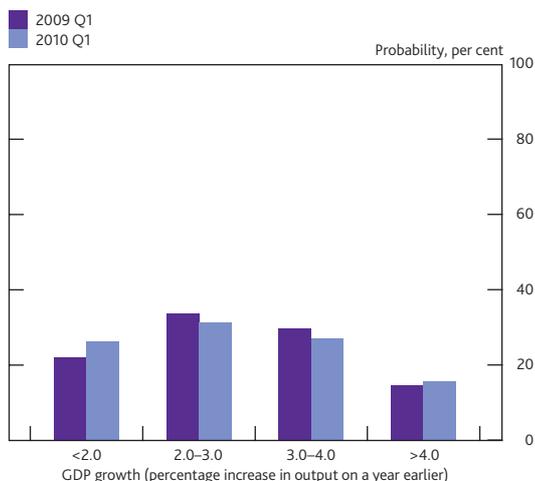
(1) See the box 'The interest rate assumptions in the projections', on pages 42–43 of the August 2004 *Inflation Report*.

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

little above this rate, reflecting the extra boost to consumption from higher household income and asset prices, and the stronger outlook for investment. These factors more than offset the dampening effect of higher market interest rates and a higher exchange rate than assumed in the November projection.

As usual, there are risks on both sides of this central case. On the upside, the pace of domestic demand may prove to be somewhat stronger, particularly if robust growth in money and credit leads to further asset price appreciation. On the

**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.

downside, there is a risk that weaker asset prices, slower growth of household incomes and rising debt burdens could constrain household spending. And, on balance, there remain some downside risks to global activity, though these are judged to have diminished since November. Overall, the risks to GDP are judged to be balanced. **Chart 5.2** shows the probabilities of outcomes for GDP growth at different horizons implied by the fan chart.

## 5.2 The outlook for CPI inflation

In the medium to long run, inflation is determined by monetary policy. But over shorter horizons, with slow adjustment in wages and prices, the outlook for inflation is also influenced by imbalances between the demand for private sector output and the resources available to supply it, as well as by the way in which businesses respond to changes in key input costs. Inflation expectations play a central role at all horizons.

As Section 4 of this *Report* discusses, CPI inflation rose by more than a percentage point in 2006, ending the year above the 2% target. If monetary policy is set appropriately, and private sector expectations are consistent with this, inflation should return to target in the medium term. But the MPC cannot take this for granted when deciding the right level for Bank Rate. It must assess the emerging evidence on cost and demand pressures, and judge the extent to which inflation expectations remain anchored on the target. The box on pages 32–33 of this *Report* examines the interplay between these factors in explaining the run-up in inflation over the past year. The rest of this section sets out the MPC's best collective view of how these factors are likely to develop over the forecast period.

### Prospects for energy and import prices

Futures prices for oil and gas have fallen since the November *Report*.<sup>(1)</sup> In the central projection, these falls — together with those seen earlier in 2006 — are assumed to feed through to substantially lower prices for energy consumed by households and firms in the early part of the forecast period. But there is obviously considerable uncertainty about the precise timing and size of this effect.

Domestic petrol prices have already fallen in response to the decline in wholesale oil prices since mid-2006. Assuming that oil prices stay reasonably close to current levels — as suggested by the futures curve — annual petrol price inflation will be negative in the next few quarters as the substantial rises a year ago drop out of the annual comparison. By itself, this will push down on annual CPI inflation in the early part of the projection.

(1) The starting points for the projection are set out in the box on page 41.

Retail prices of gas and electricity have yet to reflect the decline in wholesale energy prices. The first announcements of planned reductions in prices have recently been made, but information on the likely response of the rest of the industry, and the possibility of further cuts in the future, was very limited at the time the MPC finalised its projection. Even without any price cuts, retail gas and electricity prices would be expected to pull down on CPI inflation this year as the substantial increases a year earlier drop out of the annual comparison. Over and above this, the MPC has assumed for the purposes of the central projection that the prices of gas and electricity, taken together, will fall by around a fifth, spread evenly over the four quarters from 2007 Q2. This puts further downward pressure on the near-term projection for CPI inflation. But with very limited information on which to base this projection, there are substantial uncertainties around this central case in both directions, and the outturn could turn out to be materially different. For instance, if retail gas and electricity prices fell by 10% more or less than in the central case, the direct impact on CPI inflation over the next year could be between a quarter and a half of a percentage point.

In the central projection, import prices also fall back in the early part of the forecast period, and by a little more than in the November *Report*, reflecting lower energy costs for foreign exporters, and the rise in sterling.

### **Inflation expectations**

Inflation expectations affect the outlook for inflation in several ways. They influence: the nominal wage demands of employees, who care about their real purchasing power; the pricing decisions of businesses, which may seek higher price rises if they expect higher inflation in their costs and in competitors' prices; and the rate of return for borrowers and lenders. Inflation expectations cannot be directly observed. But survey measures of households' short-term expectations, and market-based breakeven inflation rates, have risen a little, perhaps reflecting the pickup in actual inflation over the past year. With monetary policy focused on bringing inflation back to target, the central projection continues to assume that inflation expectations remain anchored to the target in the medium to long run. But given the size of the pickup in inflation over the past year, some weight is put on the possibility that expectations take a little longer to return to target.

### **The outlook for labour costs**

As discussed in previous *Reports*, businesses have been putting downward pressure on the growth in workers' real take-home pay in recent years in an attempt to offset the rise in their non-wage costs. Wage growth in 2006 was also depressed by the pickup in labour supply, including substantial inward migration, and by the lagged effects of the cyclical slowdown in 2004–05.

In the central projection, nominal wage costs grow only a little more rapidly over the forecast period than they have in recent years. The fallback in non-wage costs is expected to reduce the need for firms to put further downward pressure on growth in real take-home pay. The degree of labour market slack is projected to decline a little over the forecast period as the rise in employment outpaces continued growth in the effective labour supply. And higher inflation outturns, together with the temporarily raised level of inflation expectations assumed in the central projection, lead to higher nominal wage settlements for a period.

Overall, nominal wage costs in the central projection grow at around their average rate over the past decade, partly offsetting the fall in non-wage costs in the first year of the forecast period, and helping to underpin growth in total costs further out. But there are considerable risks to this outlook. On the upside, pay growth may be higher than in the central case. But on the downside, the current degree of labour market slack may be greater, or labour supply may rise more rapidly, than in the central projection.

### **Companies' price-setting behaviour**

As discussed in the box in Section 4, changes in businesses' costs do not always feed through quickly, or on a one-for-one basis, to changes in CPI inflation. In deciding what prices to set, companies will also have regard to demand conditions, and to their own expectations about the future path of inflation.

In the central projection, demand is expected to continue growing steadily at, or slightly above, the average of the past decade, putting further pressure on capacity within businesses. From the second year of the projection, these pressures are expected to begin to dissipate as demand growth eases back and businesses bring new capital on stream. But in the interim, businesses are assumed to take advantage of the strength in demand to put up prices, reducing the pass-through of lower non-wage costs. The temporary rise in inflation expectations assumed in the central projection also pushes up on companies' prices for a period.

The extent of upwards pressure on prices from demand and inflation expectations is highly uncertain, and poses key risks on both sides of the MPC's central projection. On the upside, business surveys and reports from the Bank's regional Agents suggest businesses have become increasingly confident in their ability to raise prices. It is possible that this may lead them to post larger price increases. But on the downside, firms may struggle to achieve these higher prices, perhaps reflecting continued competitive pressures.

### **The projection for CPI inflation**

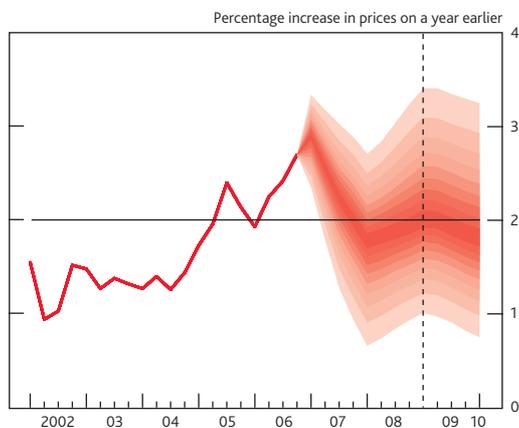
The MPC's projection for CPI inflation, assuming that Bank Rate follows a path implied by market yields, is shown in

**Chart 5.3.** The near-term outlook is volatile, and dominated by the unwinding of the past run-up in energy and import prices. CPI inflation is projected to fall back to below the target in the first year of the projection as the reduction in energy costs and lower import price inflation feed through into consumer prices and into business costs. But that is partly offset by higher pay growth and some rebuilding of corporate profit margins. Solid demand growth helps inflation to settle around the target in the medium term.

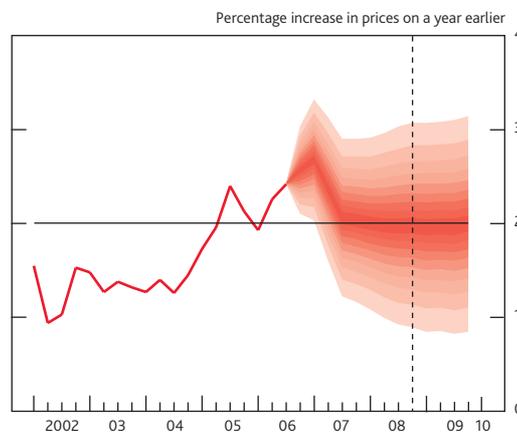
There are differences of view among the Committee concerning the central projection. One view is that there is a slightly greater margin of spare resources in the economy than embodied in the central projection, reflecting both greater spare capacity within businesses, and a greater degree of slack in the labour market. Taken together, those factors would generate a slightly weaker outlook for growth and inflation. Another view is that, against the background of strong demand and high asset values, pricing pressures may prove stronger than in the central projection. As a result, inflation two to three years ahead may prove less subdued than in the central projection.

There are substantial uncertainties around the central projection for inflation. Over the forecast period as a whole, these include: the behaviour of wages and prices in the face of robust demand growth but sharp falls in companies' non-wage costs; the degree of spare capacity in the economy; and the evolution of inflation expectations. As in November, there is greater-than-usual uncertainty over the outlook for inflation. There is additional uncertainty in the near term associated with the path of retail gas and electricity prices, and the width of the inflation fan charts has been further enlarged to reflect this. The risks to inflation are weighted to the downside in the

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

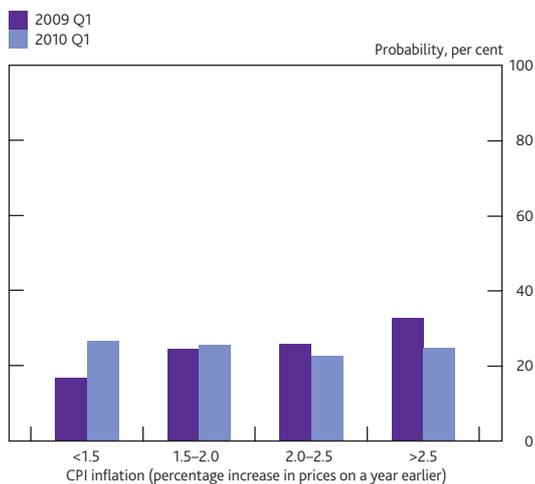


**Chart 5.4** CPI inflation projection in November based on market interest rate expectations



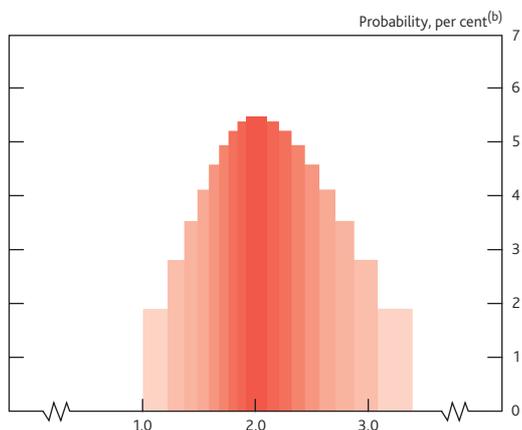
**Charts 5.3 and 5.4** The fan charts depict the probability of various outcomes for CPI inflation in the future. If economic circumstances identical to today's were to prevail on 100 occasions, the MPC's best collective judgement is that inflation over the subsequent three years would lie within the 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.

**Chart 5.6** Current projected probabilities of CPI inflation outcomes in 2009 Q1 (central 90% of the distribution)<sup>(a)</sup>



**Charts 5.6 and 5.7**

- (a) Chart 5.6 represents a cross-section of the CPI inflation fan chart in 2009 Q1 for the market interest rate projection. The coloured bands have a similar interpretation to those on the fan charts. Like the fan charts, they portray the central 90% of the probability distribution. If economic circumstances identical to today's were to prevail on 100 occasions, the MPC's best collective judgement is that inflation in 2009 Q1 would lie somewhere within the range covered by the histogram on 90 occasions. Inflation would lie outside the range covered by the histogram on 10 out of 100 occasions. Chart 5.7 shows the corresponding cross-section of the November *Inflation Report* fan chart.
- (b) Average probability within each band. The figures on the y-axis indicate the probability of inflation being within  $\pm 0.05$  percentage points of any given inflation rate, specified to one decimal place.

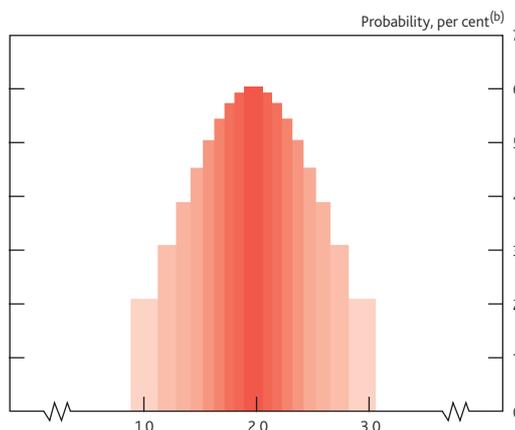
near term and to the upside in the medium term. But the two sets of risks are not independent: the extent to which the medium-term risks materialise will depend to some extent on short-term developments. There is a range of views among the Committee on the relative weight to place on different risks, and hence differing views on the overall balance of risks.

The MPC's best collective judgement of the probabilities of various outcomes for CPI inflation is 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. Chart 5.7 shows the corresponding balance in November. The box on page 48 reports comparison projections drawn from the Bank's quarterly survey of external forecasters.

### 5.3 Projection based on constant interest rates

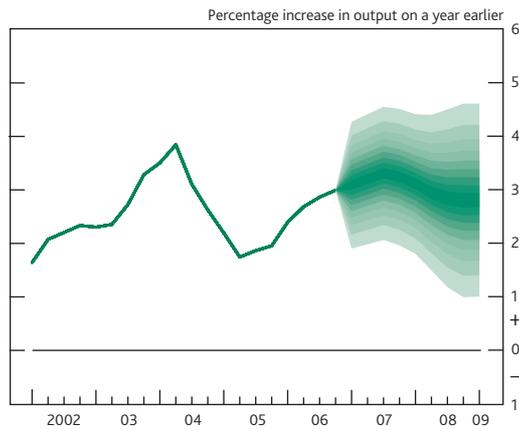
Charts 5.8 and 5.9 show the MPC's projections for GDP growth and CPI inflation, conditioned on a constant interest rate of 5.25%. Note that these are two-year rather than three-year projections.<sup>(1)</sup> The central projection for CPI inflation under constant rates is a little higher than that under market rates.

**Chart 5.7** Projected probabilities in November of CPI inflation outcomes in 2009 Q1 (central 90% of the distribution)<sup>(a)</sup>



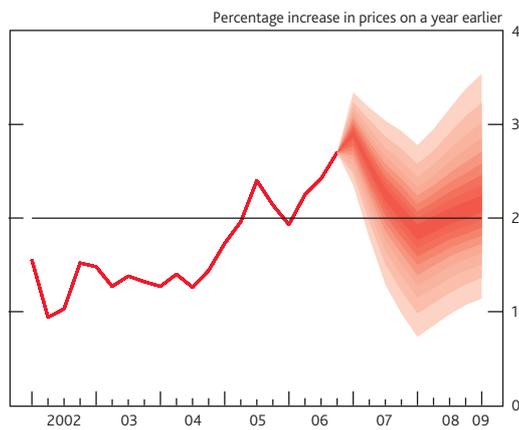
(1) The box on pages 42–43 of the August 2004 *Report* explains why the projections based on constant interest rates are only shown up to two years ahead.

**Chart 5.8** Current GDP projection based on constant nominal interest rates at 5.25%



See footnote to Chart 5.1.

**Chart 5.9** Current CPI inflation projection based on constant nominal interest rates at 5.25%



See footnote to Charts 5.3 and 5.4.

## 5.4 The policy decision

The Committee noted at its February meeting that the central projection, under the assumption that Bank Rate followed market yields, was for inflation to settle around the target in the medium term, though the near-term profile was unusually volatile. Moreover, there was considerable uncertainty about the path of inflation, both in the near term and further ahead. Given that outlook, and bearing in mind the balance of risks, the Committee judged that no change in Bank Rate was necessary at that meeting to bring CPI inflation back to the target in the medium term.

## Other forecasters' expectations

Every three months, the Bank asks a sample of external forecasters for their latest projections. In the most recent survey, carried out in late January, the central expectation of most forecasters was for CPI inflation to be close to target in the medium term (Table 1 and Chart A).

The Bank asks external forecasters not only for their central expectations, but also for their perceived distribution of risks (summarised in Table 2). For CPI inflation, those risks are on average judged to be broadly balanced around the 2% target.

**Table 1** Averages of other forecasters' central projections<sup>(a)</sup>

	2009 Q1	2010 Q1
CPI inflation <sup>(b)</sup>	2.0	2.0
GDP growth <sup>(c)</sup>	2.6	2.6
Bank Rate (per cent)	5.0	5.0
Sterling ERI <sup>(d)</sup>	100.0	99.6

(New index: January 2005 = 100)

Source: Projections of outside forecasters as of 29 January 2007.

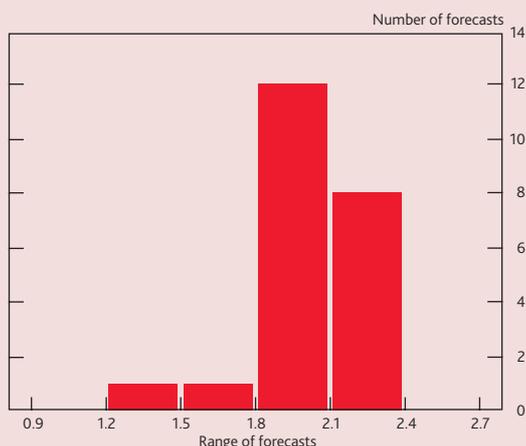
(a) For 2009 Q1, there were 22 forecasts for CPI inflation, GDP growth and Bank Rate, and 19 for the sterling ERI. For 2010 Q1, there were 22 forecasts for CPI inflation and GDP growth, 21 forecasts for Bank Rate, and 19 for the sterling ERI.

(b) Twelve-month rate.

(c) Four-quarter percentage change.

(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 2006 Q1.

**Chart A** Distribution of CPI inflation central projections for 2009 Q1



Source: Twelve-month CPI inflation projections of 22 outside forecasters as of 29 January 2007.

Turning to GDP, the average central expectation was for four-quarter output growth to remain steady at around 2½% (Table 1). However, there was thought to be a greater chance of growth being below 2% than above 3% (Table 2).

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

CPI inflation	Probability, per cent	Range:				
		<1%	1–1.5%	1.5–2%	2–2.5%	2.5–3%
2009 Q1	6	15	29	33	12	5
2010 Q1	7	15	30	31	11	6

GDP growth	Probability, per cent	Range:			
		<1%	1–2%	2–3%	>3%
2009 Q1	7	25	46	21	
2010 Q1	10	26	43	22	

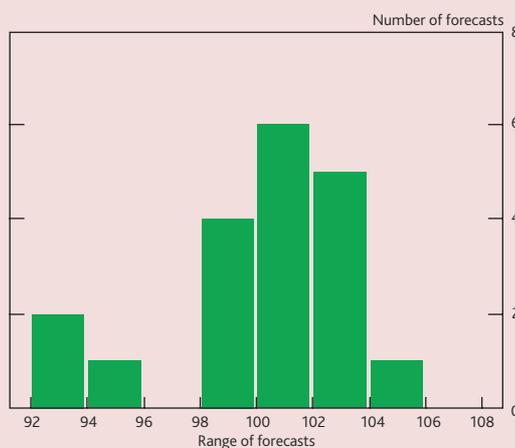
Source: Projections of outside forecasters as of 29 January 2007.

(a) For 2009 Q1 and 2010 Q1, 22 forecasters provided the Bank with their assessment of the likelihood of twelve-month CPI inflation and four-quarter GDP growth falling in the ranges shown above. The table shows the average probabilities across respondents: for example, on average forecasters assigned a probability of 50% to CPI inflation turning out to be 2.0% or less in 2009 Q1. Rows may not sum to 100 due to rounding.

The average central expectation was for Bank Rate to be 5% in both 2009 Q1 and 2010 Q1 (Table 1). Most respondents expected the sterling ERI to decline following its recent appreciation, and to follow a lower path than assumed by the MPC under its usual convention (Chart B).

Compared with three months earlier, the average central projections for CPI inflation and GDP growth were broadly unchanged. However, there was a small rise in the number of forecasters expecting the CPI inflation rate to be above the 2% target in 2009 Q1. The average central expectation for Bank Rate was a little higher, but the average expectation for the sterling ERI was little changed.

**Chart B** Distribution of sterling ERI central projections for 2009 Q1



Source: Projections of 19 outside forecasters as of 29 January 2007.

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## **Text of Bank of England press notice of 7 December 2006**

### **Bank of England maintains Bank Rate at 5.0%**

The Bank of England's Monetary Policy Committee today voted to maintain the official Bank Rate paid on commercial bank reserves at 5.0%.

The minutes of the meeting will be published at 9.30 am on Wednesday 20 December.

## **Text of Bank of England press notice of 11 January 2007**

### **Bank of England raises Bank Rate by 0.25 percentage points to 5.25%**

The Bank of England's Monetary Policy Committee today voted to raise the official Bank Rate paid on commercial bank reserves by 0.25 percentage points to 5.25%.

In the United Kingdom, output continues to rise at a firm pace. Domestic demand has grown steadily and credit and broad money growth remain rapid. The international economy continues to grow strongly.

Sterling has risen and oil prices have fallen back. But the margin of spare capacity in the economy appears limited, adding to domestic pricing pressures. CPI inflation was 2.7% in November. It is likely that inflation will rise further above the target in the near term, but then fall back as energy and import price inflation abate. Relative to the November *Inflation Report*, the risks to inflation now appear more to the upside.

Against that background, the Committee judged that an increase in Bank Rate of 0.25 percentage points to 5.25% was necessary to bring CPI inflation back to the target in the medium term.

The minutes of the meeting will be published at 9.30 am on Wednesday 24 January.

## **Text of Bank of England press notice of 8 February 2007**

### **Bank of England maintains Bank Rate at 5.25%**

The Bank of England's Monetary Policy Committee today voted to maintain the official Bank Rate paid on commercial bank reserves at 5.25%.

The Committee's latest inflation and output projections will appear in the *Inflation Report* to be published on Wednesday 14 February.

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

## Glossary and other information

### Glossary of selected data and instruments

**CPI** – consumer prices index.

**ERI** – exchange rate index.

**GDP** – gross domestic product.

**LFS** – Labour Force Survey.

**Libor** – London interbank offered rate.

**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** – retail prices index.

**RPIX** – RPI excluding mortgage interest payments.

### Abbreviations

**BCC** – British Chambers of Commerce.

**CAA** – Civil Aviation Authority.

**CBI** – Confederation of British Industry.

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

**ECB** – European Central Bank.

**ESA(95)** – European System of Accounts 1995.

**FOMC** – Federal Open Market Committee.

**FTSE** – Financial Times Stock Exchange.

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

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

**GVA** – gross value added.

**HBF** – Home Builders Federation.

**ICT** – information and communications technology.

**IMF** – International Monetary Fund.

**IPS** – International Passenger Survey.

**MEW** – mortgage equity withdrawal.

**MPC** – Monetary Policy Committee.

**MTIC** – missing trader intra-community.

**NBER** – National Bureau of Economic Research.

**NICs** – National Insurance contributions.

**OFA** – other financial auxiliaries.

**OFCs** – other financial corporations.

**ONS** – Office for National Statistics.

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

**PPP** – purchasing power parity.

**RBS** – Royal Bank of Scotland.

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

**SDR** – special drawing rights.

**VAT** – value added tax.

**WEO** – World Economic Outlook.

### 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.



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