# Inflation Report

May 2007





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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.

## The Monetary Policy Committee:

Mervyn King, Governor Rachel Lomax, Deputy Governor responsible for monetary policy John Gieve, Deputy Governor responsible for financial stability Kate Barker Charles Bean Tim Besley David Blanchflower Andrew Sentance Paul Tucker

The Overview of this *Inflation Report* is available on the Bank's website at www.bankofengland.co.uk/publications/inflationreport/infrep.htm. The entire *Report* is available in PDF at www.bankofengland.co.uk/publications/inflationreport/2007.htm. PowerPoint<sup>™</sup> 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.

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# Overview

In the United Kingdom, solid growth in GDP has been maintained. Credit and broad money growth remained rapid. Household spending has been volatile but the underlying trend appears firm. Business investment gathered pace. The world economy continued to expand briskly. Under the assumption that Bank Rate follows market yields, the Committee's central projection is for output growth to stay near its average over the past decade.

CPI inflation reached 3.1% in March. Regular pay growth remained subdued, though oil prices rebounded. The margin of spare capacity in firms appears to be relatively limited and businesses seem to have become more confident in their ability to raise prices. In the central projection, CPI inflation drops back, dipping a little below the 2% target before picking up to settle around the target in the medium term. The risks to growth are balanced, while those to inflation are weighted to the upside in the medium term.

# **Financial markets**

International equity prices rebounded after a sharp fall in late February, triggered in part by heightened concerns about US prospects. Interest rate futures in the United Kingdom and the euro area rose, while US rates fell slightly. Short-term sterling rates suggested that market participants expected Bank Rate to rise towards 5.75% by the end of 2007, easing back a little subsequently. The effective exchange rate for sterling fell almost 2%, bringing it back to the top of the fairly narrow range which it has occupied for most of the past decade. That primarily reflected a depreciation against the euro, which more than offset a further appreciation against the dollar. The growth of credit and broad money remained rapid.

## **Domestic demand**

The pattern of household spending was erratic through 2006 and that appears to have continued into early 2007. But smoothing through this volatility, underlying consumption growth has been near to its average over the past 20 years. Looking forward, household spending should be supported by a recovery in real take-home pay, helping to offset the drag from the increase in interest rates since last August.

Government spending has been a significant contributor to overall demand growth in recent years and that was maintained through 2006. According to the spending plans set out in the Budget, the public sector's contribution to nominal demand growth is set to decline over the next few years.

Business investment growth picked up noticeably during 2006. In part, that reflected unusually strong growth in the utility and energy sectors, some of which is likely to prove temporary. But more broadly, a lack of spare capacity and generally supportive financial conditions should ensure that capital spending remains robust in the near term. Surveys of investment intentions support this view.

## **Overseas trade**

The pace of global expansion remained brisk, with signs of further rebalancing in the regional pattern of demand. Last year saw the most rapid growth in euro-area activity since the turn of the decade and business surveys point to continued healthy expansion. Output continued to grow strongly in Asia. By contrast, US GDP growth slowed further, reflecting weakness in both residential and business investment. Overall, the Committee expects demand in UK export markets to continue to grow robustly, albeit more slowly than over the past year.

Reflecting this buoyancy, UK export growth is estimated to have picked up in the latter part of 2006. That occurred despite a stronger exchange rate, with exporters preferring to absorb some of the appreciation in lower margins. Import growth remained robust, reflecting the strength in domestic demand. Net trade made a broadly neutral contribution in the final quarter of 2006, but reduced GDP growth over the year as a whole. It is expected to continue to subtract slightly from growth over the first part of the forecast period and make a broadly neutral contribution thereafter.

# The outlook for GDP growth

According to the ONS's provisional estimate, GDP increased by 0.7% in the first quarter, in line with its average rate over the past decade. Output growth in the service sector remained strong and energy output rebounded. Manufacturing output is reported to have fallen but business surveys paint a more upbeat picture. Business surveys point to further solid growth in total output in the second quarter.

**Chart 1** shows the Committee's best collective judgement of the outlook for four-quarter GDP growth, assuming that Bank Rate follows a path implied by market yields. The central projection is for output to grow roughly in line with its average rate over the past decade, slowing a little over the course of the forecast period as business investment and public spending decelerate. The profile is very similar to that in the February *Report*.

## **Costs and prices**

CPI inflation reached 3.1% in March, prompting an open letter on behalf of the Committee from the Governor to the

Chart 1 Current GDP projection based on market interest rate expectations



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

Chancellor of the Exchequer.<sup>(1)</sup> That was 1.3 percentage points higher than a year earlier. In accounting terms, higher domestic energy and food prices explain about half of that pickup. The contribution of domestic energy price inflation is set to fall sharply over the rest of this year, as already announced cuts in retail gas and electricity prices feed through and the rises last year drop out of the annual comparison. But the overall path of CPI inflation depends on what happens to other prices. That in turn depends on whether companies' pricing decisions are more responsive to cost pressures which have moderated — or to their expectations of nominal demand — which appear robust.

Recent *Reports* have identified pay as a source of upside risk to the inflation outlook. But so far, pay pressures appear to have been muted. Private sector settlements are only marginally higher than last year. And although the contribution from bonus payments has increased, in large part reflecting the buoyancy of activity in financial services, regular pay growth has been broadly flat. The mildness of pay pressures probably reflects some combination of competitive pressures in product markets, higher unemployment since 2005 and the availability of migrant labour.

Other cost pressures eased in late 2006. Energy prices declined. And the inflation rates of a range of imported goods and services fell back, probably reflecting the impact of lower energy prices on input costs in other countries, as well as the earlier appreciation of sterling. These reduced cost pressures may not yet have fed through in full into output and consumer prices. Spot oil prices in sterling terms have, however, risen 17% since the February *Report*. And the recent depreciation in the effective exchange rate for sterling should raise import costs.

Business surveys and reports from the Bank's regional Agents continue to indicate that spare capacity within businesses is relatively limited. Although business investment has recovered, it would need to be sustained for capacity to rise significantly.

Business surveys, reports from the Bank's regional Agents and recent outturns for producer and consumer prices all suggest that some businesses have become more confident in their ability to make price increases stick. That could reflect delayed pass-through of the earlier rise in energy and other costs now that demand has recovered. It could also indicate upward pressure on prices caused by a shortage of capacity. And, against a background of rapid money and credit growth and buoyant nominal demand, it could be symptomatic of heightened inflation expectations leading businesses to believe that they can raise their own prices without reducing the

The letter is available on the Bank's website at www.bankofengland.co.uk/monetarypolicy/pdf/cpiletter070417.pdf.





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 outturns of inflation are also expected to lie within each pair of the lighter red areas on 10 occasions. Consequently, inflation is expected to lie somewhere within the entire fan chart on 90 out of 100 occasions. The bands widen as the time horizon is extended, indicating the increasing uncertainty about outcomes. See the box on pages 48–49 of the dashed line is drawn at the two-year point. demand for their product. Either of these latter two possibilities could imply more sustained inflationary pressure.

# 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 sharply to below the target over the next year as the effect of lower domestic energy price inflation feeds through, partly offset by companies taking advantage of buoyant nominal demand to raise margins. It then edges back up to settle around the target, as the near-term falls in domestic energy prices drop out of the twelve-month rate. The profile is also similar to that contained in the February *Report*.

As usual, there are substantial uncertainties surrounding these projections. These include: the impact of stronger demand growth on companies' prices; the evolution of inflation expectations; prospects for energy and import prices; and the degree of spare capacity in the economy. As in February, there is greater-than-usual uncertainty over the outlook for inflation and the previous widening of the fan chart has been retained. Overall, the risks to growth are judged to be balanced, while the risks to inflation are balanced in the near term but weighted 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 May meeting that the central projection, under the assumption that Bank Rate followed market yields, was for inflation to fall back sharply in the near term and then to settle around the 2% target in the medium term. Given that outlook and bearing in mind that the balance of risks to inflation was to the upside, the Committee judged that an increase of 0.25 percentage points in Bank Rate to 5.5% was necessary to meet the target for CPI inflation over the medium term.

# Money and asset prices

Since the February *Report*, Bank Rate was increased once, by 0.25 percentage points on 10 May. For most asset classes, the impact of the financial market turbulence of late February proved short-lived. Over the past three months as a whole, short-term and long-term interest rates have risen slightly in the United Kingdom. Equity prices have increased. There have been substantial movements in bilateral sterling exchange rates. But, overall, the sterling effective exchange rate index depreciated, moving back to the top of the relatively narrow range that it has occupied over much of the past decade. Broad money and secured credit growth remained strong, but unsecured lending growth continued to slow.



(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 working day averages of one-day forward rates. The curves have been adjusted for credit risk.

#### Chart 1.2 Cumulative changes in UK market interest rates since 7 February 2007



Sources: Bank of England, Bloomberg and Thomson Datastream

(a) Vertical lines drawn on the days before the FTSE All-Share equity price index fell by more than 1%

(b) Instantaneous forward rate ten years ahead.
(c) Implied by the December 2007 short sterling futures contract

#### Asset prices 1.1

#### Interest rates

Since the February Report, the MPC has increased Bank Rate once, by 0.25 percentage points to 5.5% on 10 May (Chart 1.1). A summary of the reasons for the Committee's policy decisions in March and April is provided in the box on page 10.

Short-term forward interest rates provide an indication of market expectations about the future path of Bank Rate. These fell in February and early March (Chart 1.2), reflecting a combination of data news and financial market turbulence. But they subsequently rebounded to levels above those at the time of the February Report. In early May, short-term sterling rates suggested that market participants expected Bank Rate to rise towards 5.75% by the end of 2007, easing back a little subsequently.

Long-term nominal forward rates in the United Kingdom moved in a similar way to short-term rates and, in early May, were above their level at the time of the February Report (Chart 1.2). The rise in long-term nominal forward rates largely reflected an increase in real rates, although the component that compensates for inflation was also a little higher. Survey measures of inflation expectations are discussed in Section 4.

Elsewhere, both the ECB and the Bank of Japan raised their official rates by 0.25 percentage points, to 3.75% and 0.5% respectively. Since the February Report, short-term and long-term nominal market rates have risen in the euro area and declined in the United States.

#### Equities and corporate bonds

In the United Kingdom, the FTSE All-Share index averaged 3370 in the fifteen working days to 9 May, 3.9% higher than

# Monetary policy since the February Report

The MPC's central projection in the February *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 remain above the 2% target in the near term, before falling back, settling around the target over the medium term.

By the time of the Committee's meeting on 7–8 March, there had been major movements in financial markets: equity prices had ended the month lower, while credit spreads had widened. Euro-area growth had been slightly stronger than expected but the news on the United States was to the downside. Growth in the United Kingdom in 2006 Q4 had been unrevised, while growth in 2007 Q1 was expected to be as strong as at the time of the February *Inflation Report*. Business investment growth had been stronger than expected while underlying consumption appeared more subdued. There were some signs that the housing market might be slowing.

CPI inflation had been 2.7% in January. Some cost pressures had eased and the Committee judged that the upside risks to inflation from wage growth might have started to diminish. But manufacturers' output price inflation had remained high.

For most of the Committee, the news on the month was a little to the downside. But the risks to inflation over the medium term remained to the upside: capacity utilisation within firms remained high and business surveys continued to show strong pricing intentions. The news from financial markets was not all negative for activity and inflation: market interest rates on less risky assets had fallen and the sterling ERI had depreciated. Oil prices had risen. Money growth had eased but remained strong. For one member, there was considerable evidence of slack in the labour market. The degree of monetary tightening, in conjunction with benign wage inflation, had started to push down consumption and housing market activity.

Given these considerations, eight Committee members voted to maintain Bank Rate at 5.25%. One member preferred a reduction in Bank Rate of 25 basis points.

At the time of the MPC meeting on 4–5 April, financial market asset prices had largely rebounded from their falls the previous month, although credit spreads remained wider. The world economy had remained robust, although there had been further signs of possible vulnerabilities in the United States. The official data for UK GDP growth had been revised slightly through 2006, but the picture remained one of steady growth. There was continued evidence of a shift in the balance of domestic demand, with a strengthening in business investment. Consumption had remained volatile. House price inflation had probably slowed at the end of 2006 but there were mixed signals about the outlook. Further analysis was required to judge the impact on the MPC's forecast of the Budget, published on 21 March.

CPI inflation had increased in February. Surveys continued to give a mixed picture about the amount of slack in the labour market. Pay developments had remained relatively benign, with no significant rise in settlements over the winter months.

For some members, there was no compelling case for a change in interest rates in April. There were uncertainties about UK consumption and the US economy, while the degree of spare capacity within firms and slack in the labour market did not suggest a clear need to raise rates. There remained both upside and downside risks to the prospects for inflation.

Other members also concluded that no change in Bank Rate was warranted in April but that the balance of risks to inflation remained to the upside in the medium term. Domestic demand continued to grow robustly and producer price inflation in the manufacturing and service sectors was running at an annual rate of around 3%. But the Committee was not widely expected to raise Bank Rate that month, so an increase might lead to an unwarranted upward shift in the yield curve.

Some other members thought that the upside risks were sufficient to warrant an immediate rise in Bank Rate. Developments in money, credit and asset prices posed an upside risk to inflation in the medium term. And survey evidence suggested a shift in sentiment on the part of businesses about their ability to push through price increases. These members thought that demand pressures were likely to add to existing tight capacity pressures.

Seven Committee members voted to maintain Bank Rate at 5.25%. Two members preferred an increase in Bank Rate of 25 basis points.

On 17 April, the Governor, on behalf of the Committee, wrote an open letter to the Chancellor, as required by the monetary policy remit, following the announcement that annual CPI inflation was 3.1% in March.

At its meeting on 9–10 May, the Committee voted to raise Bank Rate by 25 basis points, to 5.5%.





Source: Thomson Datastream.

(a) In local currency terms.





(a) Option-adjusted spreads over government bonds.

(b) Aggregate indices of bonds with a composite rating lower than BBB3.
 (c) Aggregate indices of bonds with a composite rating of BBB3 or higher.

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



the starting point for the February *Report*. But there was considerable volatility over the intervening period, both in the United Kingdom and overseas (**Chart 1.3**). Equity prices fell in late February and early March. Those declines may have been triggered by increasing unease about the US sub-prime mortgage market and the wider economic outlook for the United States (Section 2), and possibly reflected a general reappraisal of risk.

There was also evidence of a reassessment of risk in the corporate bond market. The corporate bond spread (the difference between the yields on corporate bonds and government bonds) is one indicator of market perceptions about the financial health of corporate issuers. Although the impact of the financial market turbulence proved short-lived for most asset classes, the rise in non-investment grade corporate spreads seen during that period has not fully unwound (Chart 1.4). That may be consistent with some reappraisal of risk, although corporate spreads still remain low relative to the past.

#### **Exchange rates**

In the absence of other factors, exchange rates should move to equalise the expected risk-adjusted returns on assets denominated in different currencies. For example, an immediate unanticipated rise in UK interest rates should lead to a sterling appreciation. Market participants would then expect a faster depreciation in the future, to offset the higher returns on sterling-denominated assets.<sup>(1)</sup>

In the fifteen working days to 9 May, the sterling effective exchange rate index (ERI) averaged 104.2, 1.8% below the starting point in the February *Report* (Chart 1.5). That moderate depreciation returned the sterling ERI to the upper end of the fairly narrow range in which it has moved over much of the past decade.

The sterling ERI depreciation was driven by movements against the euro (which accounts for around 55% of the index). The recent depreciation against the euro unwound the appreciation that occurred ahead of the February *Report* and happened despite there being no change in the interest rate differential (**Table 1.A**). That perhaps suggests that other factors, such as market perceptions of risk, played a role. By contrast, sterling's 1.5% appreciation against the US dollar since the February *Report* was broadly consistent with the rise in UK interest rates relative to those in the United States. In late April, the US dollar/sterling exchange rate reached its highest level since 1981, although it has since fallen back slightly.

In practice, exchange rate movements are more volatile than implied by changes in interest rate differentials. According to market participants, a number of yen-sterling trades were

<sup>(1)</sup> For more information, see the box on page 12 of the 2007 Q1 Bank of England Quarterly Bulletin.

Table 1.A Exchange rates and long-term interest rates<sup>(a)</sup>

	United Kingdom	Euro area	United States	Japan
Interest rates <sup>(b)</sup>				
May <i>Report</i> <sup>(c)</sup>	4.96	4.15	4.63	1.67
Changes since the February Report <sup>(d)</sup>	0.14	0.14	-0.19	-0.05
Exchange rate changes <sup>(e)</sup>				
Effective exchange rate	-1.8	3.0	-3.6	-0.5
Sterling bilateral	n.a.	-3.2	1.5	0.0

Sources: Bank of England and Bloomberg

(a) Data for the May Report are averages during the fifteen working days to 9 May. The equivalent data for the February Report are averages during the fifteen working days to 7 February. (b) Ten-year spot rates derived from government bonds.
 (c) Per cent.

(d) Percentage points.

(e) Percentage changes since the February Report. An upward move of the sterling bilateral implies an appreciation of sterling against the foreign currency.





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

#### Chart 1.7 Inflation and broad money



Bank of England, ONS and Capie, F and Webber, A (1995), A mone tary history of the Sources: United Kingdom, 1870-1982, Volume I: data, sources, methods, Table 1, pages 76-77, Routledge, London.

unwound during the financial market turbulence in late February and early March, amplifying recent exchange rate movements.

#### The housing market

House price inflation and housing market activity in the United Kingdom both picked up over 2006. But around the turn of the year, housing demand growth appeared to ease (as shown by the range of activity indicators in Chart 1.6), and house price inflation slowed a little. In part, that may have reflected the increases in Bank Rate since the beginning of August 2006.

More recently, housing market indicators have been more mixed. For example, the earlier fall in the HBF measure of net reservations has partly unwound, but the number of loan approvals for house purchase declined from 118,000 in February to 113,000 in March. According to the lenders' indices, guarterly house price inflation fell to 2.5% in 2007 Q1 from 3.7% in 2006 Q4.

### 1.2 Money, credit and balance sheets

#### Monetary aggregates

The quantity of notes and coin in circulation is a narrow measure of the amount of money in the economy. Notes and coin are predominantly held by households and retailers, so movements are likely to be associated with near-term developments in retail spending. The annual growth of notes and coin fell back a little in 2007 Q1, to 4.1%.

The growth of M4 — a broader measure of money that adds in bank and building society deposits held by households and companies — has been fairly stable in recent months but remains at high levels. On average over time, persistently high rates of broad money growth are associated with high inflation (Chart 1.7). But there have been sustained periods when the two have diverged. This could reflect movements in the demand for broad money, relative to nominal spending in the economy, perhaps due to shifts in portfolio preferences, which have no implications for the path of inflation.<sup>(1)</sup> To the extent that the recent rapid growth of broad money reflects developments in the supply of money, however, this could put upward pressure on inflation. But distinguishing between movements in broad money that reflect developments in money demand and those that reflect developments in money supply can be difficult in practice.

As discussed in the February Report, much of the recent strength in M4 growth reflected increases in the deposits held by non-bank financial corporations (known as other financial corporations, or OFCs) (Table 1.B). Some of that increase was due to institutional investors and securities dealers. Such

<sup>(</sup>a) The green area shows the range between the minimum and maximum readings of five indicators: HBF site visitors; HBF net reservations; RICS new buyer enquiries; RICS sa stock ratio; and loan approvals. HBF data are seasonally adjusted by Bank staff. RICS sales to

<sup>(</sup>b) Average of the Halifax and Nationwide house price inflation rates. The published Halifax index has been adjusted in 2002 by the Bank of England to account for a change in the method of calculation.

<sup>(</sup>a) Based on M3 until 1963 and then M4

<sup>(1)</sup> See King, M (2007), 'The MPC ten years on', lecture to the Society of Business Economists on 2 May 2007, available at www.bankofengland.co.uk/publications/speeches/2007/speech309.pdf.

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

Percentage changes on a year earlier

	2004	2005	2006		2007
			H1	H2	Q1
Notes and coin	5.5	3.1	5.7	5.1	4.1
M4 of which:	9.0	12.8	13.4	12.8	12.8
Households	8.3	8.0	7.7	8.3	8.3
Private non-financial corporations	7.2	11.5	10.0	12.5	11.1
Other financial corporations	12.7	27.7	31.5	24.0	24.8
Memo: Households' Divisia <sup>(b)</sup>	7.9	8.1	7.0	6.8	7.2

(a) Growth rates are for the last month in each period.
(b) Households' Divisia weights together each component of M4 by a measure of its liquidity and hence the likelihood that it will be used for spending. See footnote (1) on this page for reference.

#### Table 1.C Household gross financial assets<sup>(a)</sup>

Percentages of total

	Averages				
	1992–99	2000–04	2005	2006	
Currency and deposits Bonds Equities Other	26.5 12.7 53.5 7.3	27.0 16.9 47.6 8.5	28.7 18.0 44.0 9.3	28.0 17.3 45.7 9.0	

(a) Non seasonally adjusted quarterly data. Indirect holdings via life assurance companies and pension funds' reserves are allocated by asset according to the insurance companies and pensions funds' balance sheet Holdings of mutual funds shares are categorised as equities.



#### Chart 1.8 Contributions to annual households' M4 growth

(a) Interest-bearing deposits with banks and building societies

(b) Includes notes and coin, non interest bearing bank deposits, tax-exempt special savings accounts (TESSAs) and individual savings accounts (ISAs).

deposits could be used to purchase other financial or real assets, putting upward pressure on asset prices and ultimately demand and inflation. The contribution from the rest of the OFCs sector also picked up in 2005 and 2006. 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 be channelling excess money from households and companies into the banking system. Rapid growth in these deposits may also pose an upside risk to inflation in the longer term.

The growth rate of private non-financial corporations' (PNFCs') deposits has increased in recent years. But households' M4 growth has remained remarkably stable, albeit at a relatively high level. The rest of this section examines developments in household and corporate money, as well as in other elements of the household and corporate balance sheets.

#### Household finances

Household financial balance sheets comprise a variety of assets (Table 1.C) and liabilities. Each of these components is potentially sensitive to movements in Bank Rate. A box on pages 14–15 discusses the extent to which increases in Bank Rate have fed through to higher retail rates for household deposits and borrowing, and outlines the potential impact of this on household behaviour.

On the asset side of the balance sheet, the annual growth of household deposits has been around 8% for the past six years, more than 3 percentage points higher than the average rate of growth of nominal consumption. The growth of households' Divisia money — an alternative measure that gives greater weight to deposits more likely to be used for transactions has fallen since 2005.<sup>(1)</sup> Some of that slowing may have been associated with households switching from instant access deposits to time deposits (Chart 1.8) — particularly those with a shorter notice period, where the increase in interest rates has been larger. But, as households may view short-notice time deposits and instant access accounts as largely interchangeable, the slowing in Divisia growth could have limited implications for consumer spending.

On the liabilities side of the balance sheet, the recent increases in Bank Rate have begun to feed through to a higher cost of borrowing, as discussed in the box on pages 14-15. But aggregate household borrowing growth is so far little changed. Annual growth in lending to individuals was 10.5% in March,

(1) See Hancock, M (2005), 'Divisia money', Bank of England Quarterly Bulletin, Spring, pages 39-46 for more information.

# The impact of Bank Rate increases on consumer spending

Bank Rate has been increased by 1 percentage point since August 2006. This box first looks at the extent to which this has fed through to retail interest rates. It then discusses the impact of those higher retail interest rates on consumer spending.

#### Interest rate pass-through

The scale and pace of pass-through from Bank Rate to retail interest rates is affected by structural and competitive factors within the financial services sector. But pass-through also differs between products — in particular, the retail rates on variable and fixed-rate loans and deposits are likely to respond in different ways.

For variable-rate products, changes in Bank Rate are likely to pass through into retail rates reasonably quickly. Recent evidence suggests that this has largely been the case. Data for the period following the most recent Bank Rate increase are not yet available. But, between July 2006 and March 2007, the pass-through from Bank Rate to effective rates on variable mortgages — the average rate paid on outstanding balances was almost one-for-one (**Table 1**). For unsecured variable-rate debt and time deposits, most — though not all — of the increase in Bank Rate was passed on into effective rates. For sight (instant access) deposits, the degree of pass-through was smaller: the effective rate rose by around 0.4 percentage points between July 2006 and March 2007, compared with a 0.75 percentage point increase in Bank Rate over the same period.

#### Table 1 Bank Rate and effective household interest rates

Per cent	July 2006	March 2007	Change (basis points)
Bank Rate	4.50	5.25	75
Borrowing rates			
Mortgages	5.29	5.67	38
of which:			
Variable	5.46	6.16	70
Fixed	5.06	5.11	5
Unsecured borrowing	9.43	9.76	33
of which:			
Variable <sup>(a)</sup>	9.69	10.26	58
Fixed	9.06	9.05	-1
Deposit rates			
Sight	2.71	3.10	39
Time	4.07	4.68	61

(a) Includes credit card borrowing, overdrafts and variable-rate personal loans.

The degree of pass-through to fixed-rate products depends on a number of factors. Since the rate on these products is fixed for a period of time, financial institutions need to form a view about how Bank Rate will evolve over that period. Anticipated rises in Bank Rate should therefore be priced into the cost of these products in advance. If increases in Bank Rate were not fully anticipated, existing fixed-rate borrowers and savers will be exposed to changes in retail interest rates only when they reach the end of their fixed-rate periods.

In March, effective interest rates on fixed-rate lending were broadly unchanged since the middle of 2006. To an extent, this may be because financial institutions partly anticipated some of the increases in Bank Rate. But the size and speed of those increases was greater than expected, meaning that they will not have been fully priced into fixed-rate products in advance. As a result, the effective lending rate is likely to rise further as households refinance at the end of their fixed-rate periods. For example, the quoted rate on two-year fixed-rate mortgages has moved above its level two years ago. So households that took out two-year fixed-rate mortgages at that time are likely to face higher interest rates when they come to refinance.

#### Interest rates and consumer spending

In principle, household spending decisions should be based on the current value of expected lifetime income (see the box in Section 2 on page 19). An increase in interest rates affects the pattern of spending by encouraging households to postpone expenditure, reducing near-term consumption growth. In practice, however, not all households will base their spending decisions purely on lifetime income expectations. For some households, consumption may depend more on their current level of income than on their expected lifetime income — for example, if they cannot easily access sufficient borrowing to help them smooth consumer spending over time. Higher interest rates increase the net interest payments made by these households, thereby reducing their disposable income and, consequently, their spending.

The stock of outstanding household debt has increased rapidly over the past few years (**Chart A**) and interest rates have risen recently. Consequently, there has been a significant rise in the share of household income devoted to servicing debt. As a share of post-tax income, gross interest payments have increased by 2 percentage points to 9%, since 2003. And repayments of the value of the loan (the principal) will also have increased as the debt stock has risen.

Looking ahead, the retail rates on variable and fixed-rate products may well rise further as financial institutions continue



#### Table 1.D Lending to individuals<sup>(a)</sup>

#### Percentage changes on a year earlier

	1995–2005	2006	2007 Q1	
Total lending	9.8	10.4	10.5	
of which:				
Secured (83%)	8.7	11.0	11.5	
Unsecured (17%)	15.0	7.6	5.9	
of which:				
Credit card (5%)	20.3	6.7	2.4	
Other (13%)	13.3	7.9	7.1	

(a) Averages of monthly data. The shares, shown in parentheses, are calculated using average amounts outstanding in 2006. The components may not add up to the totals due to rounding. to react to past increases in Bank Rate, including the rise on 10 May 2007. That may pull down on household spending. Given the rise in household debt, this impact is likely to be larger than in the past.

# broadly in line with the rates seen over the past year (Table 1.D).

Within this, the growth rates of secured and unsecured borrowing have continued to diverge. Discussions with lenders suggest that much of this could reflect a tightening of credit conditions on unsecured debt over the past two years. But the divergence may also reflect weakening demand by borrowers for unsecured debt. As discussed in the February *Report*, households could be switching from unsecured to secured lending as rising house prices increase the collateral available to them. Indeed, housing equity withdrawal reached 6.7% of household post-tax income in 2006 Q4, a rise of around 3 percentage points over the past two years, although not all of that will have reflected an increase in borrowing to finance consumption.

The increase in debt in recent years has led to a rise in the proportion of the population facing repayment difficulties. In the year to 2007 Q1, 0.27% of the population<sup>(1)</sup> became insolvent, up from 0.08% at the start of the decade. But while this is a serious issue for the households concerned, recent Bank research suggests that the income of households with debt problems so far forms a relatively small proportion of total household income.<sup>(2)</sup> Nevertheless, there is a risk that the impact on spending could become more significant, particularly if debt problems become more widespread.

#### **Corporate finances**

The growth of corporate deposits has eased back recently but remains high relative to earlier in the decade. In 2007 Q1, the annual growth of PNFCs' M4 was almost 4 percentage points

<sup>(1)</sup> Based on official population estimates for the three months to February 2007.

<sup>(2)</sup> 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.





 (a) PNFCs' debt, net of liquid assets, as a percentage of companies' market valuation. These data are not seasonally adjusted.
 (b) PNFCs' interest payments as a percentage of gross operating surplus excluding the alignment higher than at the end of 2004 (**Table 1.B**). That is consistent with the ongoing strength of the corporate sector financial balance — retained profits after allowing for taxes, investment and other costs — which has been positive since the start of 2002. The past rise in corporate deposits may have helped support the recent growth in business investment (Section 2).

On the liabilities side of the balance sheet, there has been a rise in the annual growth of M4 lending to PNFCs: in 2007 Q1, this was at its highest since 1990. In part, that reflects the impact of lower long-term real interest rates on borrowing costs. But the rise in borrowing means that measures of corporate sector gearing have increased (Chart 1.9).

<sup>(</sup>b) PNFCs' interest payments as a percentage of gross operating surplus excluding the alignment adjustment.

# 2 Demand

Over 2006, both nominal and real GDP grew at rates close to their averages over the past decade. Since the February *Inflation Report*, there has been little news on the composition of demand. Quarterly real consumer spending growth has remained volatile. It is likely to have moderated a little in 2007 Q1, reflecting a fall in retail sales in January that has since unwound. Business investment picked up sharply in 2006, in part due to unusually strong growth in the utility and energy sectors. Corporate financial conditions remain supportive of capital spending going forward. Developments in the world economy have, on balance, been positive for UK exports.



(a) At current market prices.

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

Percentage changes on a quarter earlier

	Averages			2006	2006		
	2004	2005	2006	Q2	Q3	Q4	
Household consumption <sup>(b)</sup>	0.8	0.3	0.7	1.1	0.3	1.1	
Government consumption	0.5	0.7	0.6	0.6	0.6	0.7	
Investment	0.9	1.2	2.0	1.2	2.1	2.6	
of which, business investment	0.2	0.7	3.2	3.0	3.1	4.5	
Final domestic demand	0.8	0.5	0.9	1.2	0.6	1.2	
Change in inventories <sup>(c)(d)</sup>	0.0	-0.1	0.0	0.0	-0.2	-0.3	
Alignment adjustment <sup>(d)</sup>	0.0	-0.1	0.0	0.1	-0.2	-0.2	
Domestic demand	0.8	0.3	0.8	1.2	0.2	0.7	
'Economic' exports <sup>(e)</sup>	1.4	1.9	1.0	-0.7	2.6	1.6	
'Economic' imports <sup>(e)</sup>	1.7	1.2	1.3	1.0	1.0	1.6	
Net trade <sup>(d)</sup>	-0.1	0.2	-0.1	-0.5	0.4	0.0	
Real GDP at market prices	0.6	0.5	0.7	0.8	0.7	0.7	

(a) Chained-volume measures

(b) Includes non-profit institutions serving households
 (c) Encludes the elimenate distance of the serving households

(c) Excludes the alignment adjustment.
 (d) Percentage point contributions to quarterly growth of real GDF

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

Changes in interest rates affect inflation through their impact on nominal demand. The latest data suggest that annual growth in both nominal GDP and nominal domestic demand stabilised in the second half of 2006 (Chart 2.1), at rates close to their averages over the past decade.

Real GDP grew by 2.8% over 2006 as a whole, in line with its average growth rate over the past decade and up from 1.9% in 2005. There appears to have been a shift in the mix of domestic demand recently: business investment grew faster than household consumption in 2006 (Table 2.A), reversing the trends seen earlier in the decade. In 2007 Q1, GDP is provisionally estimated by the ONS to have grown by 0.7%.

## 2.1 Domestic demand

#### Household consumption

Quarterly consumption growth was volatile during 2006 (Chart 2.2), in part as a consequence of fluctuations in retail sales. That volatility appears to have continued into 2007. The initial estimate for consumption in 2007 Q1 is likely to show a moderation of household spending growth from the 1.1% recorded in 2006 Q4, primarily reflecting subdued retail sales growth over the quarter as a whole. But the slowing in retail sales appears to have been temporary: a sharp fall in January was unwound in February, and growth in March was close to average. In April, survey evidence on retail sales growth was mixed. The retail sales balance in the *CBI Distributive Trades Survey* reached its highest level for three years, but the *BRC-KPMG Retail Sales Monitor* suggested that annual growth in sales values fell back.

Overall, consumption growth has remained relatively resilient since mid-2006, despite the recent increases in Bank Rate and continued weakness in real take-home pay (Chart 2.3). Smoothing through the recent data volatility, spending growth has recovered to an annualised rate of just under 3%,



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



#### Chart 2.3 Contributions to annual growth in real post-tax labour income



General government benefits minus employees' National Insurance contributions.

(b) Wages and salaries plus mixed income

Taxes include income and Council Tax. Consumption expenditure deflator (including non-profit institutions serving households).

#### Table 2.B Household sector trends

#### Average annualised quarterly growth rates

	Real consumption <sup>(a)(b)</sup>	Consumption expenditure deflator <sup>(b)</sup>	Real post-tax labour income <sup>(c)</sup>	Real house prices <sup>(d)</sup>	<i>Memo</i> : saving ratio <sup>(e)</sup>
1987–2006	3.0	3.4	2.5	4.2	7.2
1997–2006	3.2	2.0	2.7	9.3	5.7
2004	3.2	1.6	1.7	12.6	3.7
2005	1.2	2.9	1.9	1.2	5.3
2006	2.7	2.2	0.5	7.3	4.9

Sources: Halifax, Nationwide, ONS and Bank of England calculations

Chained-volume measure

- Includes non-profit institutions serving households
- (c) See footnotes to Chart 2.3 for details on components. Average for 1987-2006 is calculated from 1987 Q2 (d) Average of the Halifax and Nationwide house price inflation rates, deflated by the consumption deflator.
- The published Halifax index has been adjusted in 2002 by the Bank of England to account for a change in the method of calculation.
   (e) Average percentage of households' post-tax income.

compared with a trough of less than 1% during 2005 (Chart 2.2). Consumer spending growth is below the average of the past ten years (Table 2.B). But that average may be overly affected by the 1996–99 period, when import prices fell and the terms of trade improved, boosting households' real incomes. Relative to a longer time period, consumption looks to be growing at close to its average rate over the past 20 years.

One explanation for the recent resilience of consumption growth is that some households have chosen to fund spending by running down savings or increasing borrowing, in anticipation of a recovery in real take-home pay growth. That possibility, which is consistent with the decline in the saving ratio during 2006 (Table 2.B), is discussed further in the box on page 19.

Not all households will have been able to smooth through perceived temporary weakness in real take-home pay. For example, some may have been credit constrained, and so unable to borrow as much as they would like. Bank Rate has risen since August 2006. And discussions with lenders suggest that credit conditions for unsecured borrowing tightened recently. For credit-constrained households, the weakness in real take-home pay over the past year would have been an important influence on spending.

Looking ahead, retail interest rates on household debt are likely to rise further in the near term, putting downward pressure on consumer spending (see the box on pages 14–15). In aggregate, higher interest rates will pull down on households' cash flow and the higher stock of household debt may have increased the importance of this channel relative to the past. Medium-term risks to household spending are discussed in Section 5.

#### Investment

Business investment continued to grow strongly in 2006 Q4, rising by 4.5% on the quarter (Chart 2.4). This took annual growth to 13.5%, the highest since 1998. Around a third of the growth in the year to 2006 Q4 was due to strong investment by the 'other production' sector — largely utilities and energy extraction. Investment plans from industry associations and regulators suggest that, although investment in this sector may remain at high levels in the near term, growth is likely to fall back thereafter. The pickup in investment growth in other sectors may be more robust. For example, strength in investment by 'real estate, renting and business activities' companies is consistent with their buoyant output growth.

More generally, financial conditions have been supportive of investment for some time. Although the higher level of Bank Rate will have made borrowing from banks more expensive, the overall cost of capital remains low by historical standards, reflecting low real interest rates at longer maturities and

## Developments in consumer spending

Consumer spending growth has recovered from its soft patch in 2004–05 in the face of continued weakness in real take-home pay. One explanation is that households have chosen to fund their expenditure by running down savings or increasing borrowing, in the anticipation of a recovery in real take-home pay growth. This box explores that possibility in more detail.

#### Lifetime income and consumer spending

In principle, households should base their consumption decisions on the income they expect to receive over their entire lifetime. And, if possible, households would like to minimise swings in spending from year to year. If income levels are perceived to be temporarily weak, households will borrow or run down savings to fund spending. But if households believe that the weakness in income will persist, they will revise down their view of lifetime income, and spending growth should fall for a period. So changes in income expectations are potentially an important influence on spending patterns.

But, in practice, household spending may be influenced by a range of other factors. For example, some households may not easily be able to access sufficient borrowing to help them smooth consumption. These other potential influences on consumption are discussed in the main text.

Households' expectations of lifetime income are not directly observable. But other indicators may be good proxies. One approach is to look at spending on durable goods, such as cars and televisions. When buying a durable good, households purchase a flow of services which lasts for a number of years, meaning that spending on these goods can be particularly sensitive to changes in expectations about future income.<sup>(1)</sup> So a downward revision to lifetime income may result in a fall in the share of households' money spending devoted to durables.

#### **Recent trends**

**Chart A** shows that the share of durables in nominal consumption fell from mid-2004, consistent with a downward revision to income expectations around that time. Indicators of consumer confidence — another potential measure of income expectations — fell back in 2003 and have remained fairly weak since.

There are at least two reasons why households may have revised down their income expectations around 2004: higher energy prices and the rise in the effective tax rate. Energy prices began to increase rapidly in 2004, which over time has pushed up the price of energy-intensive goods and overall inflation (Section 4).<sup>(2)</sup> In April 2003, the rate of employees'

Chart A Share of durables in nominal consumer spending



National Insurance contributions rose and, around that time, the effective income tax rate began to drift up. These developments could have led some households to revise up the amount of tax they expected to pay over their lifetimes.

When energy prices and taxes initially rose, households may have been uncertain about the implications both for their lifetime income, and macroeconomic prospects more generally. This may have prompted them to scale back spending and also to build up precautionary savings for a period — indeed, the saving ratio rose during 2005. Over time, as the likely impact of higher energy prices and taxes became more apparent, households may have started to increase spending growth in anticipation of a recovery in real take-home pay growth. This is consistent with the fall back in the saving ratio during 2006.

A key question for the near-term outlook is whether households are right to expect a recovery in real take-home pay growth. In the Committee's central projection, real take-home pay growth is assumed to recover. That central projection, and the risks around it, are discussed in Section 5.

<sup>(1)</sup> For more information see Power, J (2004), 'Durable spending, relative prices and consumption', *Bank of England Quarterly Bulletin*, Spring, pages 21–31.

<sup>(2)</sup> There could be partial offsets to this: higher profits for oil companies could mean higher dividend payments to households in the future. For more information, see page 19 of the August 2006 Report.

#### Chart 2.4 Contributions to quarterly growth in business investment<sup>(a)</sup>



(a) Chained-volume measures. Data exclude the transfer of nuclear reactors from the public (b) Series provided by the ONS. These are disaggregated data which are not subject to the

scrutiny applied to officially released National Statistics

#### Chart 2.5 Investment and output 1983-86(a)



(a) Chained-volume measures.
(b) Gross value added at basic prices. Mining and quarrying and utilities sectors excluded due to the distortionary impact of the miners' strike in 1984-85

#### Chart 2.6 Euro-area activity<sup>(a)</sup>



Source: Eurostat

(a) Chained-volume measures

(b) Includes non-profit institutions serving households

buoyant equity markets.<sup>(1)</sup> Furthermore, surveys of businesses by the CBI suggest that the cost of finance is not a significant factor inhibiting investment at the moment. Investment has also been supported by high profitability — in 2006 Q4 non-oil companies' net rate of return rose to its highest level since the series began in 1989.<sup>(2)</sup> Consistent with all of these factors, and continued pressures on capacity (Section 3), most business survey balances show that investment intentions remain strong.

The near-term profile of investment may be affected by the Budget announcement of reductions in capital allowances. As this will make most forms of capital spending more expensive from 2008 Q2, some companies could bring forward investment. Larger pre-announced cuts in capital allowances in 1984 did lead to sharp fluctuations in investment (Chart 2.5). However, the impact on UK output appeared fairly limited, with volatile demand for investment goods largely offset by changes in imports and inventories.

#### Government spending

In 2006 as a whole, nominal government consumption rose by 6.7% and nominal investment by 3.5%. In forming its projections, the MPC has assumed that nominal government spending will evolve broadly in line with the plans outlined in the Government's recent Budget. The spending plans set out in the 2007 Budget were similar to those contained in last year's Pre-Budget Report.

# 2.2 External demand and net trade

Since the February Inflation Report, activity has been a little weaker than expected in the United States, but growth in the euro area and Asia has exceeded expectations. Taken together, the news over the past three months has been positive for UK exports.

#### The euro area

Euro-area GDP growth in 2006 was the strongest since 2000, partly reflecting a pickup in investment (Chart 2.6). Consumption growth has been more subdued, but is likely to be supported by labour market developments going forward. Employment growth has risen since the start of 2006. Business surveys suggest that underlying activity remained healthy in 2007 Q1.

#### **The United States**

In the United States, the key issue remains the extent and duration of the slowdown. In 2007 Q1, GDP is estimated to have grown by only 0.3%, down from 0.6% in 2006 Q4, reflecting a fall in the contribution from net trade (Chart 2.7). Residential investment remained weak. And private

<sup>(1)</sup> See pages 15–16 of the April 2007 Financial Stability Report for further detail.

<sup>(2)</sup> See the box on page 22 of the February 2007 Inflation Report for a discussion of trends in the rate of return



Source: Bureau of Economic Analysis

(a) Chained-volume measures.(b) Includes non-profit institutions serving households.

#### Chart 2.8 UK current account



non-residential investment, which had been growing robustly for much of 2006, seems to have faltered over the past two quarters. That weakness may prove temporary: new orders for non-defence capital goods, which can provide an indication of future investment spending, picked up during 2007 Q1. Some rebound in investment would be consistent with corporate financial conditions; in particular, corporate profitability remains high.

In contrast to the weakness in investment, consumption has continued to grow robustly. Recent data on household income and wealth suggest that consumption is likely to remain reasonably firm in the near term. There are concerns about the impact of increasing delinquencies in the sub-prime mortgage market.<sup>(1)</sup> But, as a relatively small fraction of US households holds sub-prime mortgages, the direct effects of this should be small. However, the overall impact could be greater if, for example, lenders tighten credit conditions for those outside the sub-prime sector, or equity prices fall back due to worries about lenders' future profits.

#### Asia

Japanese GDP growth rebounded in 2006 Q4, following weak growth in the previous quarter. Elsewhere in Asia, growth remains brisk. Chinese GDP growth is estimated to have picked up in 2007 Q1.

#### Net trade

Net trade made a broadly neutral contribution to UK GDP growth in 2006 Q4. Despite the appreciation of the sterling ERI, 'economic' export growth (that is, excluding the estimated impact of MTIC fraud) strengthened in the second half of 2006 (Table 2.A). Reports from the Bank's regional Agents suggest that companies have not raised their foreign currency prices fully in line with the increase in the exchange rate. Although that is likely to have squeezed exporters' margins to a degree, some companies have benefited from the lower cost of imported inputs priced in US dollars.

Although export growth improved towards the end of the year, net trade still subtracted from real GDP growth over 2006 as a whole. And, as a proportion of nominal GDP, the deficit on trade in goods and services rose to 4.2% in 2006 (Chart 2.8), its highest since 1974. The deterioration in the trade balance since 2003 reflects, in part, a turnaround in the United Kingdom's oil balance from surplus to deficit. But stronger non-oil imports have also played a role.

Over recent years, the trade deficit has been partly offset by a surplus on investment income from overseas. This surplus fell back a little in 2006. The overall current account deficit rose to its highest level as a share of GDP since 1990.

(1) See pages 20-21 of the April 2007 Financial Stability Report.

# **3** Output and supply

Output growth was close to its post-1997 average in 2007 Q1. Service sector output growth remained healthy. Although official measures of manufacturing output growth were weak, surveys painted a stronger picture. Production of capital goods has been solid over the past year, consistent with the recovery in business investment. However, the rise in investment spending would need to be sustained in order to increase the capital stock materially. Capacity utilisation within businesses appears to have remained above the average of recent years. The margin of labour market slack has probably changed little since the February *Report*, although employment growth fell back slightly in early 2007.



market-determined price, such as government-provided education. The 2007 Q1 estimate is marked as a diamond and is constructed using information in the preliminary GDP release. Whole-economy output is the ONS measure of gross value added at basic prices.





(a) Gross value added at basic prices.
 (b) Includes mining and quarrying, and electricity, gas and water supply

(c) Includes output of the agriculture and construction sectors as well as rounding differences

## 3.1 Output

Growth in GDP at basic prices was provisionally estimated at 0.7% in 2007 Q1, unchanged from the previous quarter. The MPC also uses information from other measures to assess aggregate activity.<sup>(1)</sup> Market sector output is estimated to have increased at a slightly stronger rate than GDP in 2007 Q1. The annual growth rates of both GDP and market sector output are close to their averages over the past decade **(Chart 3.1)**.

In the year to 2007 Q1, the service sector — which accounts for around three quarters of the economy — was responsible for almost all of whole-economy output growth (Chart 3.2). Service sector output increased by 0.8% in the first quarter of 2007, close to its average quarterly increase during 2006. Business surveys — such as those from the CIPS/RBS and BCC — and reports from the Bank's regional Agents are consistent with continued strength in service sector output growth in the near term.

Despite an increase in March, the official measure of manufacturing output declined by 0.3% in 2007 Q1 as a whole, after recording zero growth in the previous quarter. That weakness was not, however, reflected in the corresponding business surveys, which lie above their averages of the past ten years (**Table 3.A**).

According to the official data, the output of capital goods has been rising more rapidly than manufacturing as a whole over the past year, with the latest data showing annual growth of over 3% in 2007 Q1. That strength is consistent with the recent upswing in UK business investment (Section 2). It may

 See the box on page 25 of the February 2007 Inflation Report for a discussion of alternative measures of aggregate activity.

#### Table 3.A Measures of manufacturing activity

	Averages since 1997	2006 H1	Q3	Q4	<u>2007</u> Q1	Apr.
ONS <sup>(a)</sup>	0.1	1.0	0.7	0.0	-0.3	n.a.
CIPS/RBS <sup>(b)</sup>						
Output	52.6	55.0	56.0	53.8	55.3	57.1
New orders	52.2	54.5	54.2	54.2	56.2	56.1
CBI(c)	5	10	13	8	20	18
BCC(d)	11	14	18	31	26	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 indicates 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

#### Chart 3.3 Output per worker



<sup>(</sup>a) The market sector data use the output estimate defined in Chart 3.1, divided by a measure of employment that excludes general government employees (adjusted to be on a calendar-quarter basis).

#### Chart 3.4 Measures of capacity utilisation<sup>(a)</sup>



Sources: Bank of England, BCC and CBI.

(a) Three measures are produced by weighting together sectoral 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 the minimum and maximum readings in each quarter. The full set of data is not available before 1999. also reflect a recovery in capital spending overseas: for example, investment spending in the euro area rose by almost 6% in the year to 2006 Q4.

More generally, the outlook for manufacturing seems upbeat. Survey evidence from the CIPS/RBS and CBI points to a strengthening in growth in the near term (**Table 3.A**). And industrial production in the euro area has recently accelerated. The UK manufacturing sector exports a larger share of its total output than the G7 average, and should benefit from robust demand overseas.

Output of the extraction and utilities industries added to GDP growth in 2007 Q1, unlike in much of the recent past (Chart 3.2). That partly reflected the start of production from the new Buzzard oilfield in the North Sea.

Early estimates of output growth are often subject to revision. Given the present divergence between the official data for manufacturing output and the business surveys, and in the light of past experience of revisions to GDP more generally, the Committee judges that the risks to the provisional estimate of GDP growth in the first quarter of 2007 lie to the upside.

## 3.2 Capacity utilisation within businesses

In response to a shift in demand, businesses initially adjust the intensity with which they work their existing employees and capital — usually referred to as capacity utilisation. As capacity utilisation rises, costs increase, putting upwards pressure on prices charged by companies.

One way of gauging capacity pressures is to look at movements in labour productivity — the amount of output businesses produce for a given amount of labour. As economic growth has recovered since 2005, businesses have worked their plant and workforce more intensively. The associated increase in labour productivity growth (Chart 3.3) is consistent with rising capacity utilisation.

Surveys of businesses also provide information on capacity utilisation. Weighted by sector to provide an indicative measure of capacity pressures for the whole economy, these surveys suggest that capacity utilisation remained above its average since 1999 (Chart 3.4).

Changes in capacity utilisation can have significant implications for business investment. If businesses expect higher demand to persist, rising capacity utilisation is likely to provide an incentive to invest in more capital. Business investment has grown sharply in recent quarters, adding to productive capacity (Section 2). However, annual business investment flows typically represent less than 10% of the non-residential capital stock. Moreover, a significant part of this investment will be to replace existing assets that have

#### Table 3.B Population and employment<sup>(a)</sup>

Percentage changes on a year earlier

	Averages	2005	2006	2006		2007
	Since 1997	Average	Qź	QS	Q4	QI
Population	0.6	0.8	0.8	0.8	0.8	0.8
Workforce <sup>(c)</sup>	0.8	1.0	1.6	1.5	1.4	0.9
Employment	1.0	0.9	0.8	0.7	1.0	0.5
of which:						
Public sector <sup>(d)</sup>	1.1	1.3	0.0	-0.1	-0.3	n.a.
Private sector <sup>(d)</sup>	1.0	0.8	1.0	0.9	1.3	n.a.
Employment rate (per cent) <sup>(e)</sup>	59.5	60.1	60.1	60.1	60.1	59.9

Source: Labour Force Survey.

(a) Estimates for those aged 16 and over. The population data are interpolated using mid-year estimates and from mid 2005 are based on projections by CAD/CDNS.

from mid-2005 are based on projections by GAD/ONS. (b) Estimates for 2007 Q1 are based on data for the three months to February.

(c) Workforce defined as those in work and those actively looking for work

(d) These data are adjusted to be on a calendar-quarter basis.
 (e) The total number of people employed divided by the adult population.





Note: Due to a transcription error, Chart 3.5 was incorrectly labelled as 'Whole-economy output, labour productivity and unemployment' in the printed version of the Report.

Sources: ONS (including Labour Force Survey).

 (a) 2007 Q1 estimates for productivity and employment are shown as diamonds and are based on labour market data for the three months to February 2007. Output is the ONS measure of gross value added at basic prices.
 (b) Output per worker. reached the end of their working lives. So the recent strength in business investment would need to be sustained if the capital stock were to increase materially. A measure of capital services that weights together the private sector's capital assets using estimates of their contribution to output is calculated to have increased by only 2.5% in the year to 2006 Q4, below the average growth rate of the past 30 years of around 3.5%.

### 3.3 Labour market tightness

Changes in capacity utilisation may also lead businesses to adjust their employment levels. And the balance between demand and supply in the labour market — labour market tightness — is an important determinant of pay pressures.

#### Labour demand

Annual employment growth was relatively steady during 2006, but slowed at the start of 2007 (**Table 3.B**). Given the recovery in output growth, and the increase in measures of capacity utilisation, employment growth might have been expected to be stronger in the past few quarters. But several factors may have been influencing employment developments.

First, for much of the past decade, movements in output have tended to be associated with changes in labour productivity, rather than in employment (**Chart 3.5**). That may reflect the relative economic stability seen in the United Kingdom over the past decade: the standard deviation of annual GDP growth since 1998 has been around a third of that over the period 1956–97. Hiring and firing employees is costly. So, if businesses expect movements in output growth to be temporary, they may change the intensity with which they work their employees rather than alter staffing levels. In recent quarters, businesses appear to have unwound the hoarding of labour that occurred during the 2004–05 downturn. But, with labour productivity growth slightly above its average rate since 1997, businesses may start to meet further strength in output with increased hiring.

Second, falling employment growth in the public sector acted as a drag on whole-economy employment growth throughout 2006 (**Table 3.B**). In contrast, private sector employment growth remained robust. Public sector employment data are not yet available for 2007 Q1. But it is possible that some of the weakness in employment growth during that quarter reflected developments in the public sector.

A third factor may have been the adjustment to the sharp increases in energy and import prices that occurred between 2004 and 2006, as discussed in previous *Reports*.<sup>(1)</sup> That adjustment could have held back employment growth if companies were unable to restrain pay growth as fully as they

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

#### Table 3.C Employment intentions

	Averages since 1997	2005 Average	2006 Q2	Q3	Q4	2007 Q1
Manufacturing						
BCC <sup>(a)</sup>	6	9	9	11	12	11
CBI(a)	-18	-15	-12	-21	-29	-16
Agents <sup>(b)</sup>	-1.0	-0.9	-1.2	-0.5	-0.1	-0.2
Services						
BCC <sup>(a)</sup>	21	19	24	30	22	28
Agents <sup>(b)</sup>	1.3	1.0	1.0	1.2	1.6	1.9

Sources: Bank of England, BCC and CBI.

(a) Net percentage balances of firms expecting their workforce to increase over the next three months.

BCC balances are non seasonally adjusted.
 (b) Averages of monthly data. These scores began in July 1997 and refer to companies' employment intentions over the next six months. Prior to January 2005, the scores reflected actual employment. A score of above (below) zero indicates rising (falling) employment.

# Chart 3.6 Cumulative change in the participation rate since 2004<sup>(a)</sup>



(a) Three-month moving average measure

(b) This category includes individuals at or above the state retirement age. This is currently 65 for men and 60 for women.



**Chart 3.7** Participation rates of working-age females and people of retirement age<sup>(a)</sup>

(a) Working-age females are those aged from 16 to 59. People of retirement age are those individuals at or above the state retirement age. This is currently 65 for men and 60 for women. Three-month moving average measures. might have liked. However, to date, growth in real take-home pay has been subdued (Section 4). So it is not clear how large the impact of past increases in non-labour costs on hiring decisions has been.

Finally, the LFS measure of employment underrepresents the impact of temporary foreign workers. The ONS estimates that the number of temporary foreign workers rose by 20,000–100,000 in 2005,<sup>(1)</sup> but more recent official estimates are not available. It is thus possible that the LFS data understate the strength of labour demand.

Surveys and reports from the Bank's regional Agents are an alternative source of information about businesses' expected changes in employment levels (**Table 3.C**). Most of these strengthened during the second half of 2006 and into 2007, suggesting a solid near-term outlook for private sector employment growth. Indeed, the Agents report that overall intentions for employment growth stand at the highest level since 1998, reflecting strength in the services sector. However, in the past, surveys of companies' hiring intentions have not always provided an accurate guide to future movements in official employment estimates.

#### Labour supply

The available workforce — an important determinant of potential supply — reflects both the size of the population and the proportion of that population who are either working or actively looking for work. The workforce has grown sharply in the past few years, according to official estimates, but the growth rate has recently slowed (**Table 3.B**). Indeed, in the three months to February 2007, the workforce is estimated to have declined by 40,000 compared with six months previously.

The recent weakness in labour supply may prove temporary. In accounting terms, it reflects a small, but broad-based, decline in the participation rate, with the contribution from each age cohort either levelling off or declining relative to its recent peak (**Chart 3.6**). Some of the previous growth in the workforce reflected an increase in participation among those of retirement age and women. These groups have recorded a structural increase in their participation rates during the past ten years (**Chart 3.7**). Factors such as changes in household structure and higher levels of education among women can help explain the increase in female participation, while older individuals may be responding to increased longevity or concerns over pension provision. To the extent that those factors remain in place, further increases in participation from these groups remain possible.

Jobseekers' perceptions of labour market conditions may have been one influence on the participation rate. In the early

(1) See ONS (2007), Review of Workforce Jobs Benchmarking.



Chart 3.8 Unemployment and participation rates

(a) Percentage of the workforce (all aged 16 and over). Three-month moving average measure (b) Percentage of the adult population in the workforce. Three-month moving average measure

92

97

61

60

07

2002

Chart 3.9 Applicants approved by the Worker Registration Scheme<sup>(a)</sup>

8



HM Revenue and Customs; and Home Office

(a) Nationals from the A8 (the Accession Countries, excluding Malta and Cyprus) are generally required to register under the Worker Registration Scheme if they wish to take up employment in the United Kingdom. The data are from 2004 Q2, when these countries joined the EU





(a) The vacancies to unemployment ratio is the number of job vacancies divided by the LFS measure of unemployment (all aged 16 and over). Vacancies exclude agriculture, forestry and fishing. Three-month moving average measure.
(b) Percentage of the workforce (all aged 16 and over). Three-month moving average measure.

1980s and 1990s, large rises in unemployment discouraged potential entrants to the labour force, causing a rapid decline in the participation rate (Chart 3.8). However, the rise in unemployment seen since mid-2005 has been much smaller than the increases associated with the 'discouraged worker' effect of the early 1980s and 1990s. Indeed, from mid-2005 to mid-2006, the unemployment and participation rates were rising in tandem.

Growth in the workforce has also been supported in recent years by strong inflows of migrant labour. These flows appear to have remained robust. Although the data on migration are subject to significant uncertainty, the number of applicants approved by the Worker Registration Scheme (WRS) remained strong in recent quarters (Chart 3.9). The Bank's regional Agents also report that some business contacts intend to make greater use of migrant labour. So it is likely that migrant inflows will continue to bolster the workforce.

## Overall impact on labour market tightness

Various measures can be used to assess labour market tightness. One commonly used indicator is the unemployment rate, which rose in late 2005 and the first half of 2006. More recently, however, the unemployment rate has been broadly stable on the LFS measure, although the claimant count edged lower in 2007 Q1. A weighted measure of non-employment,<sup>(1)</sup> which weights together different groups of unemployed and inactive people by an estimate of their probability of finding work, has risen slightly in recent months. Taken together, these indicators suggest that the amount of slack in the labour market has probably changed little since the February Report.

Another measure of labour market tightness is the ratio of vacancies to unemployment (Chart 3.10). This has risen slightly from its trough in mid-2006, and further increases in vacancies would be consistent with a decline in the unemployment rate in the near term. Business surveys and reports from the Bank's regional Agents also provide information on recruitment difficulties and other measures of labour market tightness. But these have recently painted a mixed picture, possibly reflecting sectoral divergences.

Overall, the recent stability in the unemployment rate has been associated with weaker growth in labour supply. In the near term, businesses are likely to increase employment growth, given the underlying strength in economic activity. Slower labour supply growth, if it persists, could also reduce the amount of labour market slack. But it may well prove temporary, especially given the likelihood of continued migration flows. The MPC expects the amount of slack in the labour market to diminish modestly over the coming quarters.

(1) See pages 23 and 25 of the February 2005 Inflation Report.

Z

0

1972

77

Source: Labour Force Survey

82

# 4 Costs and prices

CPI inflation increased to 3.1% in March. But domestic energy prices are likely to push down on inflation in the near term, as announced price cuts for retail gas and electricity feed through, and past increases drop out of the annual comparison. Companies' cost pressures eased in the second half of 2006. Wage settlements and regular pay growth have remained subdued in early 2007, but bonuses picked up. Easing cost conditions have contributed to an increase in companies' profit margins. However, oil prices have rebounded since the February *Report*. And survey measures of companies' pricing intentions remain at relatively high levels.







4.1 CPI inflation

#### **Recent trends in CPI inflation**

CPI inflation — the measure targeted by the MPC — rose to 3.1% in March (Chart 4.1). That was more than 1 percentage point away from the target of 2%, and consequently triggered an open letter from the Governor, on behalf of the Committee, to the Chancellor, as required by the monetary policy remit.<sup>(1)</sup> Other measures of consumer inflation also picked up. RPIX inflation rose to 3.9% in March and RPI inflation rose to 4.8%.

In the medium to long run, inflation is determined by monetary policy. But over shorter horizons, other factors such as energy and import costs — can play a role. CPI inflation rose from 1.8% in March 2006 to 3.1% in March 2007. In an accounting sense, much of that was associated with rising inflation rates for domestic energy and food (see the box on page 28 for more detail). However, movements in individual components of the index do not necessarily give an indication of how underlying inflationary pressure is evolving. Price rises in one sector may be offset by price falls elsewhere.

### Short-term outlook for CPI inflation

Energy prices are likely to be a key downward influence on CPI inflation over the next few months. To begin with, the substantial increases in gas and electricity bills a year ago will drop out of the annual comparison (**Chart 4.2**). Even if gas and electricity prices remained at their March levels, these 'base effects' would be sufficient to pull down on CPI inflation by around half a percentage point by 2007 Q3.

In addition, a number of energy suppliers have announced price cuts for domestic gas and electricity in response to lower wholesale energy prices (Table 4.A). These cuts will be

The letter is available on the Bank's website at www.bankofengland.co.uk/monetarypolicy/pdf/cpiletter070417.pdf.

# Accounting for recent movements in CPI inflation

In March, annual CPI inflation increased to 3.1%. That followed a pickup in inflation over the previous year. This box outlines the factors that account for the rise. The potential underlying causes of the pickup in inflation are discussed in the main text and Section 5.(1)

In the twelve months to March 2007, annual CPI inflation picked up from 1.8% to 3.1%. Increases in food and energy prices accounted for around half of that rise (**Chart A**).







Part of the rise in food price inflation reflected global factors: for example, prices of foods traded on commodities exchanges picked up sharply in 2006. However, domestic factors were also important. While annual food price inflation in the euro area has eased back over the past six months, UK food price inflation picked up further.

Energy prices have affected CPI inflation most directly through their impact on petrol prices and domestic gas and electricity bills, although they have also affected companies' costs. Movements in oil prices tend to feed through rapidly to petrol prices. In 2004–06, petrol prices increased substantially; they then fell back before rising again this spring, tracking developments in oil prices (Section 4.3). By contrast, higher wholesale gas prices, particularly during the winter of 2005–06, took time to feed through to retail gas and electricity bills. The contribution to CPI inflation from higher gas and electricity prices has persisted over the past year, but it is likely to fall back in the coming months (Section 4.1). An additional factor in the rise in CPI inflation between February and March (**Table 1**) was household goods price inflation, with furniture prices rising sharply. These prices typically rise each March ahead of discounting in the Easter sales, but the increase this year, at almost 10%, was much larger than the average 4% increases seen over the previous decade.

#### Table 1 Contributions to CPI inflation<sup>(a)</sup>

Percentage points

	<u>2006</u> Dec.	<u>2007</u> Jan.	Feb.	Mar.	Change FebMar.
Vehicle fuels and lubricants	0.0	-0.1	-0.1	0.0	0.1
Food and non-alcoholic beverages	0.5	0.4	0.5	0.6	0.1
Electricity, gas, liquid and solid fuels	1.0	0.9	0.9	0.8	-0.1
Household goods	0.0	0.0	0.1	0.2	0.1
Other	1.5	1.4	1.5	1.5	0.1
СРІ	3.0	2.7	2.8	3.1	0.3

(a) Contributions to annual (non seasonally adjusted) CPI inflation. Components may not sum to CPI inflation due to rounding.

Changes in specific components of the CPI do not necessarily provide a good guide to their overall impact on inflation, in part because other prices may change in response. The inflation rates of goods and services besides food and energy have also picked up over the past year. In part that may reflect developments relating to specific components, but it is also consistent with a broader pass-through of higher costs and the strength of demand. Inflation expectations — both of households and companies — may also have been a factor. Companies' pricing intentions are discussed further in a box on pages 32–33.

In the medium term, inflation is determined by the balance of money spending and output at current prices. Section 5 discusses the MPC's projection for the medium-term inflation outlook in detail.

(1) See also the box on pages 32–33 of the February 2007 Report.

#### Table 4.A Announced changes in gas and electricity prices<sup>(a)</sup>

	Price re <u>(per ce</u> Gas	eductions <u>nt)</u> Electricity	Dates effective	Market shares <sup>(b)</sup> (percentages) Gas/electricity
Scottish and Southern Energy	12	-	1 March	10/16
	-	5	1 April	
British Gas	17	11	12 March	52/22
	3	6	26 April	
Powergen	16	5	30 April	13/20
npower	16	3	30 April	10/15
EDF Energy	10.2	-	15 June	6/13
ScottishPower	16.5	5.5	15 June	9/13

Sources: Company press releases and Ofgem

(a) Headline reductions in gas and electricity prices as announced by domestic energy suppliers. These may (b) Market shares for Great Britain taken from Ofgem's Domestic Retail Market Report — March 2006



<sup>(</sup>a) Household post-tax wages and salaries per head divided by the consumption deflator. (a) Producting post-tax wages and sataries per head divided by the Consumption denator. Includes non-profit institutions serving households. Productivity is calculated from ONS data on non-oil and gas market sector output divided by private sector employees.
 (b) Total compensation of employees per head divided by the gross value added (GVA) deflator of the non-oil and gas market sector (Bank estimate). Productivity is calculated from ONS data on non-oil and gas market sector output divided by private sector employees.

captured in the CPI, though the ONS smoothes the impact over a number of months. In the absence of any other changes, these announcements are likely to pull down on CPI inflation by between a quarter and half a percentage point by 2007 Q3.

In the February *Report*, the Committee's central projection assumed that retail gas and electricity prices would fall by around 20%, spread evenly over the four quarters from 2007 Q2. So far, the announced reductions have been broadly consistent with that assumption for the first two quarters. The Committee's assumption is consistent with a further round of cuts of a similar size later in the year.

The extent to which falling domestic energy price inflation will lead to lower CPI inflation depends on what happens to other prices. The February *Report* highlighted a number of risks to the inflation outlook relating to the sharp increase in firms' costs between 2004 and 2006. A key issue was how pay growth would respond to higher inflation, and also how prices would respond as those cost pressures unwound. Inflation expectations were also likely to play an important role. The remainder of this section looks at recent developments in each of these factors. Section 5 sets out the Committee's assessment of the medium-term outlook.

## 4.2 Labour costs

One potentially important factor for pay growth has been the adjustment to the sharp rise in energy and import costs that occurred between 2004 and 2006. That rise drove a wedge between growth in the 'real product wage' — the price of companies' labour relative to the price of value added in the production process — and that of the 'real consumption wage' - employees' real take-home pay.<sup>(1)</sup> For employment and output to be maintained, the real product wage should grow in line with productivity. So the adjustment to higher costs must ultimately take place through real take-home pay.

Initially, the increase in non-labour costs pushed up on the real product wage, relative to productivity, by squeezing the value added component of companies' output prices (Chart 4.3). Companies reacted by restraining pay growth and raising prices. That in turn squeezed growth in employees' real take-home pay, which rose by an average of just 0.6% per year during 2004–06, compared with annual productivity growth of 2.2%. In the second half of 2006, part of the increase in energy and import costs unwound. As a result of these developments, by 2006 Q4 the real product wage, relative to productivity, had fallen back close to the level prevailing before the cost increases began to bite.

<sup>(1)</sup> See the box on pages 30–31 of the November 2006 Report for a more detailed discussion of the impact of non-labour costs on the real product wage.





# **Chart 4.5** Contributions to the variation in annual private sector earnings growth<sup>(a)</sup>



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

(a) Percentage point differences in the components of annual average earnings growth from their respective averages since 1998.
(b) Annual growth in private sector earnings excluding bonuses, minus wage settlements.

(c) Avriage of wage settlements in each year.



 (a) Intree-month moving average measure of the private sector average earnings index.
 (b) Percentage points. Defined as annual private sector average earnings growth less regular pay growth. One upside risk to inflation highlighted in previous *Reports* was that employees would resist the required squeeze on real take-home pay, prolonging the adjustment process. The rest of this section discusses recent evidence on pay growth in more detail.

#### Private sector pay

An important component of the wage-determination process is settlements. For the private sector, the three-month average measure of wage settlements picked up a little during 2006 (Chart 4.4). But settlements for the first quarter of this year were more subdued. January is a key month for private sector settlements, but so too are April and June, meaning that a fuller picture of settlements in 2007 will not be available until later in the year.

Settlements typically account for only a small proportion of the variation in pay growth from year to year (Chart 4.5). Companies often use more flexible elements of pay to respond to fluctuations in activity, profits and labour market conditions. For example, private sector bonuses and wage drift — which reflects factors such as merit pay and overtime eased in the early part of this decade as output growth slowed. So signs that employees are resisting the required squeeze on real take-home pay could also show up in these components.

In recent months, private sector wage drift (excluding bonuses) has been little changed. The contribution of bonus payments increased in January and February, mainly reflecting robust growth in the financial intermediation sector. As a result, overall annual private sector earnings growth picked up to 4.9% in the three months to February, its highest level since 2001 (Chart 4.6). And an alternative measure of private sector earnings, the experimental ONS index of average weekly earnings, picked up more sharply.

Bonuses may be a way to reward past performance that does not commit companies to paying higher wages in future. Excluding bonus payments, annual growth in private sector regular pay remained muted at 3.7% in the three months to February — similar to the average rate over the past two years. 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. Bonuses tend to be volatile. If bonus payments are smoothed over a full year, the pickup in earnings growth has been smaller than that of the headline average earnings index.

So far, the pickup in private sector pay growth has been limited, despite the squeeze on real take-home pay in recent years and the continued expansion of output (Section 3). That probably reflects some combination of competitive pressures in product markets, higher unemployment since 2005 and the availability of migrant labour. The outlook for labour costs is discussed in Section 5.

#### Chart 4.7 Public and private sector earnings<sup>(a)</sup>



#### Table 4.B Energy prices(a)

	Latest spot prices	<u>Futures</u> 2007 H2	prices 2008	2009				
Brent crude oil prices: \$ per barrel (£ per barrel) <sup>(b)</sup> May Report         66 (33)         68         70         70           February Report         55 (28)         59         61         6								
May Report	66 (33)	68	70	70				
February Report	55 (28)	59	61	61				
Percentage changes	19 (17)	15	15	14				
UK wholesale gas prices: pence per the	erm							
May Report	17	28	37	39				
February Report	26	30	35	35				
Percentage changes	-35	-5	6	10				

Sources: Bloomberg, International Exchange (www.theice.com), Reuters and Thomson Datastream.

(a) Average spot and futures prices in the fifteen working days to 9 May and 7 February for the May and

February Reports respectively.
 (b) Figures in parentheses show Brent crude oil prices in sterling terms, calculated using the average market exchange rate prevailing in the fifteen working day windows.

#### Chart 4.8 Import prices(a)



(a) Excluding the impact of missing trader intra-community (MTIC) fraud.

#### Public sector pay

In the public sector, earnings growth slowed during 2006 to substantially below that of the private sector. That is in contrast to most of the previous few years (**Chart 4.7**). Earnings growth in the public sector is likely to remain subdued this year. The increases recommended by most of the pay review bodies are to be phased in over the year and are slightly lower on average than in 2006. Developments in public sector pay will affect the incomes and spending of those employees directly affected. But, in recent years, public sector pay trends appear to have had little short-term influence on private sector pay growth.

## 4.3 Global costs and prices

The evolution of global costs and prices has had a substantial impact on CPI inflation in recent years, both directly, for example through petrol prices and domestic energy bills, and indirectly through UK companies' costs.

Energy prices eased back in the latter part of 2006 following sharp rises during the previous two years. But in the fifteen working days to 9 May, the spot price of Brent crude oil was \$66 per barrel, 19% higher than the starting point for the February *Report*. Futures prices for the next three years have also risen (**Table 4.B**). By contrast, spot UK wholesale gas prices have fallen by 35%, more than implied by futures prices in early February. But those lower prices are not expected to persist. Futures prices for gas in 2008 and 2009 are a little higher compared with February.

Import price inflation continued to ease in 2006 Q4, with prices slightly lower than a year earlier, the first annual decline for over two years (**Chart 4.8**). In part, that was accounted for by the decline in energy prices in the second half of 2006. But inflation rates for other imported goods and services also eased. That is likely to reflect the indirect impact of lower energy prices in reducing input costs for producers in other countries, as well as the appreciation of sterling in 2006. The prospects for import prices are discussed in Section 5.

### 4.4 Pass-through to output prices

Companies may seek to increase their prices for a number of reasons, such as rising costs, strong demand, or higher inflation expectations. However, the consequences for CPI inflation will depend on the extent to which companies are able to make higher prices stick. And that will be influenced, at least in part, by the competitive pressures they face and the state of demand.

The increases in energy and import prices between 2004 and 2006 led to sharp increases in the overall costs of production.

## Pricing power and business surveys

Survey measures of companies' output prices generally rose sharply during 2006 and early 2007. Indeed, many reached their highest levels since the surveys began, typically around a decade ago. That is consistent with the rise in CPI inflation over the past year. But a concern is whether the strength of those survey balances also signals greater inflationary pressures going forward. This box considers the evidence from business surveys and the potential implications for the inflation outlook.

There are a range of business surveys that ask about companies' pricing decisions. Some of the surveys, such as those produced by the CBI and CIPS/RBS, ask about actual changes in prices achieved. As such, the answers are less likely to contain incremental information about companies' future pricing decisions. However, the BCC and CBI also ask about companies' expected changes in prices over the next three months. In 2006 Q4, the BCC expected price balances for both manufacturing and services reached their highest levels since the series began in 1997 Q2, although they fell back in 2007 Q1. And the CBI expected price balances have been well above their averages over the past decade (Table 1).

#### Table 1 Survey measures of prices(a)

	Averages since 1997(	2005 b)	2006	<u>2007</u> Q1	Apr.	
Manufacturing						
CBI — expected <sup>(c)</sup>	-5	1	12	16	n.a.	
BCC — expected	12	21	29	23	n.a.	
CIPS/RBS — reported <sup>(d)</sup>	51.4	51.5	54.4	55.5	56.8	
Services						
CBI/Grant Thornton — expected	3	-5	17	30	n.a.	
BCC — expected	24	28	27	30	n.a.	
CIPS/RBS — reported <sup>(d)</sup>	52.2	52.3	53.6	54.9	53.9	

Sources: BCC, CBI, CIPS/RBS and Grant Thornton

(a) The BCC and CBI surveys ask about prices expected over the next three months. The CIPS/RBS surveys ask about prices over the past month.

(b) The averages for the CPS/RBS manufacturing, BCC and CBI/Grant Thornton surveys are since the series began in November 1999, 1997 Q2 and 1998 Q4 respectively.

(c) The April 2007 CBI Quarterly Industrial Trends Survey has been allocated to 2007 Q1. Earlier surveys have been allocated to their respective quarters accordingly.
 (d) Averages of monthly data.

One simple way of assessing the information contained in pricing surveys is to look at correlations with output price and CPI inflation. Unfortunately, most of the surveys only have a relatively short back run. Some surveys have tracked current developments in output price inflation well. But over this limited period, most have had little predictive power for output price inflation one year ahead. One survey that extends back much further is the CBI survey of manufacturers. That has been correlated with future output price inflation in the past, but has been less so more recently. However, a weighted average of the BCC surveys for manufacturing and

services has generally tracked CPI inflation one year ahead fairly well. Overall, the sample period is too short to draw reliable conclusions about the predictive content of pricing surveys.

Even if most surveys are generally only informative about near-term price pressures, they may still be useful in assessing why prices are rising. And that could affect the outlook for longer-term inflationary pressures. Prices may be rising in response to past increases in energy and import costs. That is consistent with the BCC survey, in which a high proportion of companies have continued to cite higher costs for raw materials as pushing up on prices, particularly in manufacturing. If that is the case, price pressures might be expected to ease as the effects of those earlier cost increases diminish.

Prices could also be rising in response to strong demand. In recent quarters, most surveys have reported orders and output balances above their averages during the past decade. According to the BCC survey, for example, domestic orders picked up strongly in 2006, following a slowdown in 2005 (Chart A). That suggests that strong demand might recently have had a greater influence on price pressures, whereas in 2004 and 2005 the high price balances largely reflected rising costs. Consistent with this, reports from the Bank's regional Agents have highlighted that some companies have greater confidence in their ability to raise prices.



(a) Balances from the BCC manufacturing and service sector surveys weighted together using nominal shares of output. Four-quarter moving averages. The domestic orders balance refer to changes over the past three months, and the prices balance to expected changes over the next three months. The prices balance starts in 1997 Q2. rs balance refers

Another possibility is that expected price balances provide an indication of companies' inflation expectations. Over the limited period covered by most of the surveys, this is the first time that companies have been faced with such a significant increase in inflation. That may have led them to believe that they can increase their prices without suffering a drop in

demand for their output. And that could lead to greater inflationary pressure, at least for a while.

Overall, the strength of survey measures of companies' prices is consistent with the rise in inflation over the past two years. Although their predictive power for future inflation is less clear, that may reflect the short time period covered by most

Chart 4.9 An estimate of private sector unit costs and consumer prices



(a) Bank estimate. Total nominal costs divided by non-oil and gas market sector gross output (gross value added plus intermediate inputs). Costs are estimated as the sum of compensation of private sector employees (grossed up for self employment), nominal imports (excluding the impact of missing trader intra-community fraud) and the estimated value of domestic consumption of oil and gas.

#### Table 4.C Output prices

Percentage changes on a year earlier										
	Average since 1997	2006 Q2	Q3	Q4	2007 Q1					
Manufacturing	1.2	3.0	2.5	1.9	2.4					
excluding food, beverages, tobacco and petroleum	0.6	2.6	2.3	2.5	2.7					
Services <sup>(a)</sup>	2.3	3.5	3.2	3.0	n.a.					

(a) The experimental Services Producer Price Index, formerly known as the Corporate Services Price Index, on a net sector basis. surveys. Moreover, they do provide corroborative evidence of continued pressures of demand on supply, as does the anecdotal evidence of perceptions of greater pricing power from the Bank's regional Agents. And it is possible that the expected price balances indicate that companies' inflation expectations have edged up. Overall, the survey measures point to a possible upside risk to inflation.

An illustrative measure of private sector unit costs, excluding the oil and gas extraction sector, shows annual growth rising to around 5% in 2005–06, the highest in five years (Chart 4.9). Prices of final output, of which consumer prices are a subset, did not pick up to the same extent, suggesting that companies' profit margins were squeezed during that period.

It could be that companies were reluctant to increase prices initially, particularly if costs were expected to be higher only temporarily. Ongoing competitive pressures may also have limited the scope for price increases. And the rising prices of energy and import-intensive goods and services would have reduced the demand for other goods and services, putting downward pressure on their prices.

In the second half of 2006, unit cost pressures eased, as companies restrained growth in labour costs and the increases in energy and import prices partially unwound. But lower costs did not feed through fully to output prices, implying some rebuilding of profit margins. The prices of petroleum products, those most directly affected by changes in oil prices, have fallen back. But output price inflation for other manufactured goods picked up around the turn of the year (**Table 4.C**). And although output price inflation in the service sector eased a little in 2006, it remained above the average of the past decade. More recently, the rebound in oil prices will have placed renewed upward pressure on costs.

Price balances from business surveys have also been strong recently. That could reflect continued higher costs. But as the box on pages 32–33 highlights, companies could also be responding to the strength of demand, or higher expectations of prices in the markets in which they operate. A key issue for the inflation outlook is the extent to which those price pressures feed through to consumer prices. The MPC's judgements on this issue are discussed in Section 5.

A recent survey by the Bank's regional Agents asked consumer-focused companies about movements in their prices. A large net balance of consumer services companies expected their prices to rise over the coming year (Chart 4.10), with some reporting greater pricing power on the back of strong demand. Manufacturers of consumer goods, on balance, also expected prices to rise further, mainly in response



(a) Based on 230 responses to a survey of companies by the Bank of England's regional Agents in March, weighted by respondents' turnover. The survey asked about changes in prices achieved over the past twelve months and expected over the next twelve months. Full weight was given to those that reported 'substantial' changes up or down and half weight to the supervised of th those that reported only 'slight' changes.

#### Table 4.D Surveys of households' inflation expectations over the next twelve months

Per cent

	Averages 2005	2006	2006 Q4	<u>2007</u> Q1	Apr.
Bank/GfK NOP survey <sup>(a)</sup>	2.2	2.6	2.7	2.7	n.a.
YouGov/Citigroup survey <sup>(b)</sup>	2.4	2.4	2.4	2.5	2.5
GfK NOP survey <sup>(c)</sup>	60	67	67	67	68

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 (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?'.

to higher costs. However, retailers did not expect to increase their prices, largely reflecting ongoing competitive pressures. If manufacturers are able to increase prices as they expect, that suggests that retailers would either need to offset those higher prices from suppliers through reductions in other costs or face lower profits. Alternatively, companies' expectations may not be fulfilled: retail prices may rise or manufacturers' output prices may not.

### 4.5 Inflation expectations

Inflation expectations are relevant to pricing and wage decisions. Companies are more likely to raise their prices if they believe competitors' prices will be increasing more rapidly. And employees may press for higher nominal wages if their expectations of future inflation increase. However, inflation expectations are not directly observed.

One way of assessing the expectations of households is through surveys. A quarterly survey carried out by GfK NOP for the Bank suggests that inflation expectations over the next twelve months picked up in 2006 (Table 4.D). Expectations were unchanged in February this year; data covering the more recent period of fluctuations in CPI inflation are not yet available. An alternative survey carried out monthly by GfK NOP also picked up in 2006. A survey by YouGov for Citigroup has been relatively stable on average for the past 18 months.

# **5** Prospects for inflation

In the central projection, assuming that Bank Rate follows market yields, CPI inflation drops back, dipping a little below the 2% target before picking up to settle around the target in the medium term. GDP is projected to continue growing steadily at a rate close to its average over the past decade. The projections for inflation and output are similar to those in the February *Report*. The outlook for inflation remains unusually uncertain. Key risks include: the impact of stronger demand growth on companies' prices; the evolution of inflation expectations; prospects for energy and import prices; and the degree of spare capacity in the economy. The risks to growth are judged to be balanced, while those to inflation are balanced in the near term, but weighted to the upside in the medium term.

## 5.1 The outlook for CPI inflation

CPI inflation reached 3.1% in March, more than a percentage point above the target, and 1.3 percentage points higher than a year earlier. Part of that rise reflected a sharp increase in energy and food prices (see Section 4). But the pickup in inflation also occurred at a time of heightened demand pressures, rapid growth in aggregate money and credit, buoyant asset prices and a pickup in some measures of inflation expectations and companies' pricing intentions. Retail gas and electricity price inflation is expected to fall back sharply over the coming year. But the extent to which that reduces overall CPI inflation depends on what happens to other prices. And that in turn depends on whether companies' pricing decisions prove more responsive to their cost pressures, which have moderated, or to expectations for nominal demand, which appear robust. The challenge for monetary policy is to assess where the balance of these risks is likely to leave inflation in the medium term. This section sets out the MPC's best collective judgement on the outlook for CPI inflation; Section 5.2 discusses the outlook for demand. The Committee's financial and energy market assumptions are given in the box on page 41.

#### Prospects for energy and import prices

Energy prices have been a key influence on recent movements in CPI inflation, and are likely to remain so in the near future. As Section 4 discusses in greater detail, the contribution to CPI inflation from retail gas and electricity prices should fall sharply over the next six months. Part of that reflects a simple arithmetic effect as the substantial increases in household energy bills a year ago drop out of the annual comparison. The remainder reflects the recently announced price cuts, which will reduce gas and electricity prices taken together by around

10% by the end of 2007 Q3 — in line with the assumption in the February *Report*. For the purposes of the central projection, the MPC continues to assume that retail gas and electricity prices will be cut by a further 10%, spread evenly over 2007 Q4 and 2008 Q1. That puts downward pressure on the projection for CPI inflation into 2008. But with little hard information about the pricing intentions of energy companies, and the possibility of further unexpected movements in wholesale prices, there are uncertainties in both directions around this central case.

Petrol prices are expected to pull down on CPI inflation very slightly in the next few months, as the large price rises a year ago fall out of the annual comparison. But that drag is smaller than in the February *Report*, reflecting the recent rebound in global oil prices. And by the autumn, petrol prices are likely to add a little to inflation, reflecting the modestly upward-sloping oil futures curve and the increase in fuel duties. Against the backdrop of sharp changes in global demand and diminished spare capacity in the oil market, oil prices have been volatile in recent years. That volatility may well continue in the future, posing marked uncertainties around this projection in both directions.

Non-oil import price inflation has fallen back, in part as overseas producers' energy costs have begun to ease. That softness is expected to continue over the forecast period, leaving import prices as a whole broadly flat, and returning the relative price of imports to domestic goods to a declining trend. The near-term outlook for import prices is slightly stronger than in the February *Report*, reflecting the depreciation of sterling since then and the impact of the recent rise in oil prices on overseas producers' costs. And there is a risk that there might be greater upwards pressure if recent rises in some key commodity prices persist or capacity constraints tighten as the global expansion continues.

#### Inflation expectations

With CPI inflation above target, and other measures such as RPI inflation rather higher, a key issue is how long households and companies expect that higher inflation to persist, and the extent to which those expectations are built into wages and prices.

It is essential for the effectiveness of monetary policy that inflation expectations remain anchored to the target. There is no evidence from Consensus forecasts that this is under threat over the longer term: projections for CPI inflation in 2012–17 are close to the 2% target. But market-based breakeven inflation rates and shorter-term survey measures of households' inflation expectations have picked up a little over the past 18 months or so. Interpreting those movements is not straightforward. Market-based measures are linked to RPI rather than CPI, and contain an inflation risk premium; and

household surveys can be volatile and do not relate to a specific inflation index.

The central projection assumes that inflation expectations return to the target over time. But assessing how rapidly this happens under alternative monetary policy settings is complicated by the fact that little is known about how households and companies form expectations. If expectations are formed mainly on the basis of observed inflation (or the inflation rates of highly visible sub-components, such as food and energy prices), they may fall back quite quickly as energy price pressures ease. But if expectations are more heavily influenced by observed rates of nominal demand growth, money and asset prices, or remain focused on the recent high inflation outturns, they may move back more slowly. Though the uncertainties in this area are substantial, the central projection places some weight on this latter possibility.

#### Companies' price-setting behaviour

The prices that companies charge their customers are related to developments in business costs. In the central projection, wages grow broadly in line with the average rate over the past decade. That is a little stronger than the past year or two, reflecting a modest projected tightening in the labour market, and a pickup in companies' ability to pay reflecting recent improvements in corporate profits and productivity. Recent data outturns (discussed in Section 4) suggest that the risk of a sharper rise in pay discussed in previous Reports has diminished somewhat, at least in the near term. But considerable uncertainties remain in both directions. On the upside, the recent pickup in bonuses might presage a more general rise in wage drift. And on the downside, greater labour supply, especially through migrant labour, may increase the slack in the labour market. But with energy and imported input cost pressures expected to moderate, particularly in the early part of the forecast period, overall cost inflation in the central projection is somewhat weaker than it has been over the past two years.

As discussed in Section 4, evidence from business surveys, the Bank's regional Agents, and recent outturns for producer and consumer prices suggest that some companies have become more confident in their ability to make price rises stick. That could reflect a number of possibilities. First, it might simply reflect the delayed pass-through of past rises in energy and other non-wage costs previously absorbed in lower profits. That should have few implications for medium-term inflationary pressure. Second, with limited spare capacity and buoyant expectations of future demand growth in some sectors, companies may be seeking to push prices up beyond the level required to recoup past rises in costs. In the past, measures of the mark-up of prices over costs have tended to increase in periods of accelerating demand. And third, against a background of rapid money and credit growth and buoyant nominal demand, it could be symptomatic of heightened

expectations of general inflation, leading businesses to believe that they can increase their prices without suffering a drop in demand for their output. Either of these latter two possibilities could imply more sustained inflationary pressure.

These alternative explanations suggest marked uncertainties to the outlook for corporate pricing behaviour. On the downside, strong competitive conditions — particularly in retailing — may thwart companies' aspirations for higher prices. Past movements in business pricing surveys have contained limited information about pricing trends beyond the short term. And there are few reliable measures of businesses' inflation expectations. But with demand projected to grow steadily throughout the forecast period (see Section 5.2) and the margin of spare capacity within firms expected to remain limited, the central projection assumes that businesses take the opportunity to raise mark-ups a little further, mitigating the impact of lower costs. The temporarily elevated level of inflation expectations assumed in the central projection also pushes up on prices for a period.

#### The projection for CPI inflation

The MPC's projection for CPI inflation is shown in **Chart 5.1**. It assumes that Bank Rate follows the path implied by market yields, given in **Table 1** on page 41, which is higher than that in February. In the central case, inflation drops back in the first half of the forecast period, dipping a little below the 2% target as the effect of lower domestic energy price inflation feeds through. But inflation does not reflect the full decline in energy prices, as companies take advantage of buoyant nominal demand to raise their mark-ups a little. Inflation edges back up to target later in the forecast period, as the effects of the energy price cuts fall out of the annual comparison. The projection is similar to that in February **(Chart 5.2)**, though the trough in inflation occurs a little later,



Chart 5.1 Current CPI inflation projection based on

market interest rate expectations

Chart 5.2 CPI inflation projection in February based on market interest rate expectations



Charts 5.1 and 5.2 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.

reflecting in part stronger upwards pressure in the near term from the higher oil price and the lower value of sterling.

There is an unusual degree of uncertainty about the outlook for inflation, particularly in the near term, and the widening of the fan chart in the February *Report* has therefore been retained. The main risks include: the impact of stronger demand growth on companies' prices; the evolution of inflation expectations; prospects for energy and import prices; and the degree of spare capacity in the economy. Taken together, the risks are judged to be balanced in the near term, and weighted 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.

These risks will need to be monitored carefully against the data over the next few months. For the medium-term outlook for inflation, indicators of pricing pressure are particularly important at present. In the central case, such measures are expected to fall back gradually. If they were to remain elevated, that would be consistent with the possibility that inflation expectations had moved more persistently upwards or mark-ups were being raised more aggressively. In that case, the Committee would be likely to view the upside risks as crystallising. Another significant indicator is the cost of labour which, in the central case, is expected to pick up moderately. If, for example, wage pressures were to diminish, the Committee would be likely to view that as evidence that the upside risks had receded.

The MPC's best collective judgement of the probabilities of various outcomes for CPI inflation is shown in **Chart 5.3**. The overall balance of risks to the inflation outlook at the two-year point is shown in **Chart 5.4**. **Chart 5.5** shows the corresponding balance in February. The box on page 44 reports comparison projections drawn from a quarterly survey of external forecasters carried out by the Bank.

# 5.2 The outlook for demand

#### **Consumer spending**

The MPC's assessment of consumption prospects has changed little in recent *Reports*. In the current central projection, consumer spending grows steadily, at a rate slightly below its average over the past 20 years. Underpinning this continued strength is an assumption that real labour income growth will recover to more typical rates, after a period of slower growth reflecting rising taxes and energy costs. That recovery in real incomes helps to offset the drag from higher interest rates. In the near term, consumption is expected to be slightly weaker than in the February *Report*, consistent with the softness in retail sales at the start of 2007. But in the central case that weakness is expected to be temporary, and consumption ends the forecast at a similar level to that in the previous *Report*.

Chart 5.3 The MPC's expectations for CPI inflation based on market interest rate expectations<sup>(a)</sup>



<sup>(</sup>a) These figures are derived from the same distribution as Chart 51. They represent the probabilities that the MPC assigns to CPI inflation lying within a particular range at a specified time in the future.

#### **Chart 5.4** Current projected probabilities of CPI inflation outturns in 2009 Q2 (central 90% of the distribution)<sup>(a)</sup>



#### Chart 5.5 Projected probabilities in February of CPI inflation outturns in 2009 Q2 (central 90% of the distribution)<sup>(a)</sup>



#### Charts 5.4 and 5.5

(a) Chart 5.4 represents a cross-section of the CPI inflation fan chart in 2009 Q2 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 Q2 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 5.5** shows the corresponding cross-section of the February *Inflation Report* fan chart.

(b) Average probability within each band. The figures on the y-axis indicate the probability of inflation being within ±0.05 percentage points of any given inflation rate, specified to one decimal place.

The volatility of recent household spending data makes it harder to identify the underlying trends, and there are risks on both sides of the central projection. On the upside, households may prove to be more optimistic about the future, reflecting lower energy costs, buoyant asset prices and an improved outlook for employment and earnings. But on the downside, the combination of progressively higher market interest rates and a higher debt burden may act as more of a drag on household spending.

#### Private sector investment

The MPC has been expecting a recovery in investment spending for some time, consistent with elevated levels of capacity utilisation, stable demand prospects and favourable corporate financial conditions. In the event, official measures of business investment growth at the end of last year were somewhat stronger than assumed in the February Report. In part, that reflected unusually strong growth in the utility and energy sectors, which is not likely to persist in the medium term. But investment growth in other sectors also picked up. In the central projection, private investment growth slows gradually from the very high levels seen at the end of 2006. But the level of business investment spending as a proportion of output remains above that in the February Report throughout most of the projection, consistent with the signs of increased strength in the recent data, and with surveys of business investment intentions. As always, there are uncertainties around this profile in both directions, not least given the tendency for investment data to be revised substantially. On the upside, there may be more near-term momentum in investment growth. But on the downside, higher short-term interest rates and rising corporate gearing may begin to weigh more heavily on investment plans.

# Financial and energy market assumptions

The projections for CPI inflation and GDP growth described in Charts 5.1 and 5.6 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		200	2008				2009			201	2010			
	Q2(b	) Q3	Q4	Q1	Q2	Q3	Q4		Q1	Q2	Q3	Q4	Q1	Q2	
May	5.4	5.7	5.7	5.7	5.7	5.6	5.6		5.5	5.5	5.5	5.5	5.4	5.4	
February	5.5	5.6	5.6	5.5	5.5	5.5	5.4		5.4	5.4	5.3	5.3	5.3		

(a) The data are fifteen-day averages of one-day forward rates to 9 May 2007 and 7 February 2007 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) May figure for 2007 Q2 is an average of realised spot rates to 9 May, and forward rates thereafter.

On average, in the fifteen days leading up to the MPC's May decision, the market yield curve implied that financial market participants expected Bank Rate to peak around the end of 2007, before easing back gradually. The profile is slightly above that in February for most of the period. 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 10 May. The chart suggests that market participants believed that a wide variety of outturns was possible, though the band of uncertainty was narrower than in February.

The starting point for the sterling exchange rate index in the MPC's projections for GDP growth and CPI inflation was 104.2, the average for the fifteen working days to 9 May. That was 1.8% below the starting point for the February forecast. Under the MPC's usual convention,<sup>(2)</sup> the exchange rate is assumed to depreciate to 102.5 by 2009 Q2 and is lower throughout the forecast period than assumed in February.

The starting point for UK equity prices in the MPC's projections was 3370 — the average of the FTSE All-Share for the fifteen working days to 9 May. That was 3.9% above the starting point for the February forecast. Equity prices are assumed to grow in line with nominal GDP in the long run.





(a) Bank Rate shown to 9 May, the day before the MPC's decision.

(b) The mean of the fan charit is the market rate profile for the fifteen-day average ending 9 May, 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.

Over the medium term, energy prices are assumed to evolve broadly in line with the path implied by futures markets. The starting point for the price of Brent crude oil was \$66 per barrel in the fifteen working days to 9 May. That was 19% higher than the starting point for the February forecast; average Brent futures prices over the next three years were 15% higher. The starting point for wholesale gas prices was 17 pence per therm in the fifteen working days to 9 May, 35% lower than the starting point in February. But that fall partly reflected the usual seasonal pattern for spot gas prices: average futures prices over the next three years were 6% higher.

There remain some uncertainties about the scale and pace of pass-through to the prices of gas and electricity faced by households and companies. As in February, the central projection assumes that, taken together, retail gas and electricity prices fall by around 20% by 2008 Q1. The cuts announced so far amount to about a 10% fall in retail prices by the end of 2007 Q3 - so the assumption implies a further round of cuts of similar size, spread evenly over 2007 Q4 and 2008 Q1.

#### 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 Budget. Those plans imply a gradual deceleration in nominal government spending over the forecast period.

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

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

Public sector employment growth has been falling for some time (see Section 3). In the central projection, that is assumed to increase the pool of labour available to work in the market sector, helping to boost capacity.

#### Trade and external demand

Net trade — the balance of exports minus imports — is projected to subtract from GDP growth a little over the first part of the forecast period, and make a broadly neutral contribution thereafter. Exports are expected to grow at a firm pace, underpinned by the lower level of sterling, and continued robust growth in the global economy. But imports are also projected to grow briskly, at a rate somewhat above that of domestic demand, reflecting the projected fall in the relative price of imports.

Prospects in the euro area, which accounts for around half of UK exports, have improved further since the February *Report*. With investment growth remaining strong and unemployment falling, euro-area GDP is assumed to grow steadily at a rate equal to its average over the past ten years. And there is a chance that growth could be stronger than this central case, in particular if consumption picks up more rapidly. By contrast, the near-term outlook for activity in the United States appears weaker than it did at the time of the February Report, with softer non-residential investment growth and ongoing difficulties in the housing market. There is a risk that this may presage a more prolonged pause in US activity. But with consumption expected to remain reasonably robust, and the underlying investment environment still appearing positive, the central case is for a near-term recovery in GDP growth, albeit to a rate a little below the average over the past decade. Taken together, the positive news from the euro area and Asia is judged to offset the weaker near-term picture in the United States, leaving the outlook for UK-weighted world demand in the central projection somewhat stronger than in the February Report.

#### The GDP projection

The MPC's projection for four-quarter GDP growth is shown in **Chart 5.6**, assuming that Bank Rate follows market yields. The central projection is for steady GDP growth, at or around the average rate seen over the past decade, similar to the profile in the February *Report*. Growth is a little above that ten-year average in the early part of the projection — consistent with indications from business surveys — but edges down over the forecast period, as business investment and government spending growth slow.

The risks around the central case are judged to be balanced. On the upside, domestic demand growth might exceed the central projection, particularly in the near term, if household or corporate sentiment picks up further, boosted perhaps by buoyant asset prices and low long-term interest rates. And growth in the euro area and Asia may exceed expectations.

Chart 5.6 Current GDP projection based on market interest rate expectations



The fan chart depicts the probability of various outcomes for GDP growth in the future. If economic circumstances identical to today's were to prevail on 100 occasions, the MPC's best collective judgement is that GDP growth over the subsequent three years would lie within the darkest central band on only 10 of those occasions. The fan chart is constructed so that outturns of GDP growth are also expected to lie within teach 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.





<sup>(</sup>a) These figures are derived from the same distribution as Chart 5.6. They represent the probabilities that the MPC assigns to GDP growth lying within a particular range at a specified time in the future.

Chart 5.8 Current GDP projection based on constant nominal interest rates at 5.5%



Chart 5.9 Current CPI inflation projection based on constant nominal interest rates at 5.5%



Key downside risks include: the interaction of higher short-term interest rates with the growing debt burden; and the possibility that weaker growth in the United States could trigger a global slowdown. **Chart 5.7** shows the probabilities of outcomes for GDP growth at different horizons implied by the fan chart.

# 5.3 Projection based on constant interest rates

**Charts 5.8** and **5.9** show the MPC's projections for GDP growth and inflation, on the alternative assumption that Bank Rate stays constant at 5.5%. These are two-year rather than three-year projections.<sup>(1)</sup> The central projection for CPI inflation under constant interest rates is higher than that under market rates.

# 5.4 The policy decision

The Committee noted at its May meeting that the central projection, under the assumption that Bank Rate followed market yields, was for inflation to fall back sharply in the near term and then to settle around the 2% target in the medium term. Given that outlook and bearing in mind that the balance of risks to inflation was to the upside, the Committee judged that an increase of 0.25 percentage points in Bank Rate to 5.5% was necessary to meet the target for CPI inflation over the medium term.

<sup>(1)</sup> For an explanation of why these projections are only shown for a two-year period, see the box on pages 42–43 of the August 2004 Report.

# Other forecasters' expectations

Every three months, the Bank asks a sample of external forecasters for their latest economic projections. In the most recent survey, carried out in late April, the average central expectation of forecasters was for CPI inflation to return to target in the medium term (Table 1 and Chart A). That was similar to the average central expectation reported in the previous survey.

#### Table 1 Averages of other forecasters' central projections(a)

	2009 Q2	2010 Q2	
CPI inflation <sup>(b)</sup>	2.0	2.0	
GDP growth <sup>(c)</sup>	2.6	2.6	
Bank Rate (per cent)	5.1	5.1	
Sterling ERI <sup>(d)</sup>	100.1	99.7	
Sterling ERI <sup>(d)</sup>	100.1	99.7	

(New index: January 2005 = 100)

Source: Projections of outside forecasters as of 23 April 2007

(a) For 2009 Q2, there were 22 forecasts for CPI inflation, GDP growth and Bank Rate, and 17 for the sterling EBL. For 2010 Q2, there were 22 forecasts for CPI inflation and GDP growth, 21 forecasts for Bank Rate, and 16 for the sterling ERI. Twelve-month rate

Four-quarter percentage change.

 (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 Q2



Source: Twelve-month CPI inflation projections of 22 outside forecasters as of 23 April 2007.

The Bank also asks forecasters for an assessment of the risks surrounding their central expectations for CPI inflation and GDP growth. For CPI, those risks were judged to be broadly balanced around the 2% target in the medium term (Table 2).

For GDP, the average central expectation was little changed from the previous survey, with four-quarter output growth projected to stand at 2.6% in 2009 Q2 and 2010 Q2. On average, forecasters judged there to be a greater risk of GDP 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%	>3%
2009 Q2	6	13	30	32	13	6
2010 Q2	7	14	30	28	13	7

#### GDP growth

Probability, per cent	Range:			
	<1%	1–2%	2–3%	>3%
2009 Q2	8	25	42	24
2010 Q2	9	24	40	27

Source: Projections of outside forecasters as of 23 April 2007.

(a) For 2009 Q2 and 2010 Q2, 22 forecasters provided the Bank with their assessment of the likelihood of velve-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 49% to CPI inflation turning out to be 2.0% or less in 2009 Q2. Rows may not sum to 100 due to rounding.

External forecasters are also asked about their central expectations for Bank Rate and the sterling ERI. For Bank Rate, the average central expectation was 5.1% in both 2009 Q2 and 2010 Q2. That was slightly higher than three months earlier, but below the interest rates implied by market yields (see the box on page 41).

Sterling ERI was forecast to decline over the next three years (Chart B), and to follow a lower path than assumed by the MPC under its usual convention.

Chart B Distribution of sterling ERI central projections for 2009 Q2



Source: Projections of 17 outside forecasters as of 23 April 2007.

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# Text of Bank of England press notice of 8 March 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 minutes of the meeting will be published at 9.30 am on Wednesday 21 March.

# Text of Bank of England press notice of 5 April 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 minutes of the meeting will be published at 9.30 am on Wednesday 18 April.

# Text of Bank of England press notice of 10 May 2007 Bank of England raises Bank Rate by 0.25 percentage points to 5.5%

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 5.5%.

In the United Kingdom, output growth has remained firm. Business investment has been stronger than expected and, although indicators of consumer spending have been volatile, the underlying picture is one of steady growth. Credit and broad money continue to grow rapidly. The pace of expansion of the international economy remains robust.

CPI inflation picked up to 3.1% in March. Lower gas and electricity prices and weaker import price inflation mean that CPI inflation is likely to fall back to around the 2% target in the course of this year. But the margin of spare capacity in firms appears limited and there are signs that businesses are more able to push through price increases. Relative to the 2% target, the risks to the outlook for inflation in the medium term consequently remain tilted to the upside.

Against that background, the Committee judged that a further increase in Bank Rate of 0.25 percentage points to 5.5% was necessary to meet the 2% target for CPI inflation in the medium term.

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

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

# 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.

M3 – Non-bank holdings of notes and coin plus all deposits of all residents (both the public and private sectors) with the UK banking sector (including sight and time deposits in sterling and foreign currencies, and time deposits with accepting houses, overseas banks and other banks).

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

- **A8** Accession countries. The Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia and Slovenia.
- **BCC** British Chambers of Commerce. **BRC** – British Retail Consortium.
- BRC BIILISH Retail CONSOLUUTI.
- **CBI** Confederation of British Industry.
- CIPS Chartered Institute of Purchasing and Supply.
- ECB European Central Bank.
- EU European Union.
- FTSE Financial Times Stock Exchange.

G7 – Canada, France, Germany, Italy, Japan, the
United Kingdom and the United States.
GAD – Government Actuary's Department.
GfK – Gesellschaft für Konsumforschung, Great Britain Ltd.
HBF – Home Builders Federation.
ISA – individual savings account.
MPC – Monetary Policy Committee.
MTIC – missing trader intra-community.
OFCs – other financial corporations.
ONS – Office for National Statistics.
PNFCs – private non-financial corporations.
RBS – Royal Bank of Scotland.
RICS – Royal Institution of Chartered Surveyors.
TESSA – tax-exempt special savings account.
WRS – Worker Registration Scheme.

# 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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