Inflation Report

August 2009





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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 Charles Bean, Deputy Governor responsible for monetary policy Paul Tucker, Deputy Governor responsible for financial stability Kate Barker Tim Besley Spencer Dale Paul Fisher David Miles Andrew Sentance

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/2009.htm.

PowerPoint[™] versions of the charts in this *Report* and the data underlying most of the charts are provided at www.bankofengland.co.uk/publications/inflationreport/2009.htm.

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Overview

Much of the world economy remained in recession, with levels of activity in many countries significantly lower than a year ago. But there were more encouraging signs looking ahead. Financial market strains eased and bank funding conditions improved a little, although financial conditions remained fragile. Household and business confidence picked up somewhat from the very low levels observed in the financial crisis last autumn.

In the United Kingdom, the recession appeared deeper than previously estimated and GDP fell further in the second quarter of 2009. But the pace of contraction moderated and business surveys suggested that the trough in output was near. The prospects for domestic economic activity are underpinned by the considerable stimulus from the easing in monetary and fiscal policy and the past depreciation of sterling. Output will be boosted as the inventory adjustment runs its course. But there are also factors that are likely to hinder recovery, both in the United Kingdom and abroad. Credit conditions are likely to remain tight as banks continue to repair their balance sheets, and past falls in asset prices and high levels of public and private debt will weigh on spending. On balance, the stimulus should lead to a slow recovery in economic activity, but the timing and strength of that recovery remains highly uncertain.

CPI inflation fell back to a little below the 2% target. The margin of spare capacity in the economy increased further and pay growth remained weak. Under the assumptions that Bank Rate moves in line with market rates and the stock of assets purchased through the issuance of central bank reserves reaches £175 billion, the downward pressure from the margin of spare capacity means that inflation is more likely to be below target in the medium term than above. But there are significant risks to the inflation outlook in each direction.

Financial and credit markets

The MPC maintained Bank Rate at 0.5% and continued its programme of asset purchases. Gilt yields rose over the past three months, but were probably lower than they would have been in the absence of the asset purchase programme. The functioning of corporate credit markets improved and large companies increasingly turned to bond and equity markets for finance. Money growth remained weak despite the asset purchase programme. It was likely that some of the extra money had been used by investors to buy securities issued by banks and by businesses to repay bank debt.

Growth in the stock of loans to households remained subdued, and the stock of outstanding loans to businesses fell. Housing market activity recovered modestly providing some support to house prices. Strains within financial markets eased as the perceived risk of a more severe downturn receded. Equity prices rose internationally. The sterling effective exchange rate appreciated, but was still around 20% below its 2007 peak.

Global activity

World output contracted markedly in the first quarter of 2009, although indicators of near-term activity had picked up materially since then. The turnaround was most marked in some Asia-Pacific economies where growth appeared to have rebounded strongly in 2009 Q2. The pace of contraction in US domestic demand eased in Q2, and indicators of consumption and investment in the euro area improved. But global credit conditions remained tight and prospects for a sustained recovery in world output were uncertain. The substantial depreciation of sterling should continue to encourage both domestic and overseas spending to switch towards UK-produced goods and services.

Domestic demand

Households' consumption was estimated to have fallen by 3% in the year to 2009 Q1. A number of factors were likely to have depressed consumption over the past year. Asset prices had fallen, and the effects of the financial crisis and attendant recession may have led households to revise down their expectations of future earnings. Increased uncertainty about the economic outlook and the possibility that taxes may rise in the future may have encouraged households to save more. More timely data suggested that the pace of contraction in consumption eased in the second quarter of 2009.

Investment spending plummeted in 2009 Q1. Business investment was estimated to have fallen by nearly 8% and dwellings investment by more than 12%. Low levels of capacity utilisation, nervousness about the outlook for demand, and tight credit conditions all weighed on investment spending. Those factors also pushed down inventory levels, which fell sharply.

The Committee's projections are conditioned on the fiscal plans set out in the 2009 Budget. Those plans embodied a marked rise in the ratio of public sector debt to GDP. Stabilising that ratio will require some combination of lower government spending and higher taxes, as a share of GDP.

The outlook for GDP growth

GDP was estimated to have fallen by 0.8% in 2009 Q2. Downward revisions to growth around the turn of the year indicated that the recession was deeper than previously thought. Nominal spending was estimated to have fallen by 4% in the year to 2009 Q1. But business surveys suggested that the trough in output was near.

Chart 1 shows the Committee's best collective judgement for four-quarter GDP growth, assuming that Bank Rate follows a path implied by market rates and the stock of assets purchased through the issuance of central bank reserves reaches £175 billion and remains at that level throughout the forecast period. The considerable stimulus from the easing of monetary and fiscal policy and the past depreciation of sterling





The fan chart depicts the probability of various outcomes for GDP growth. It has been conditioned on the assumption that the stock of purchased assets financed by the issuance of central bank reserves reaches £175 billion and remains there throughout the forecast period. To the left of the first vertical dashed line, the distribution reflects the likelihood of revisions to the data over the past; to the right, it reflects uncertainty over the evolution of GDP growth in the future. If economic circumstances identical to today's were to preval on 100 occasions, the MPC's best collective judgement is that the mature estimate of GDP growth would lie within the darkest central band on only 10 of those occasions. The fan chart is constructed so that outturns are also expected to lie within each pair of the lighter green areas on 10 occasions. In any particular quarter of the forecast period, GDP is therefore expected to lie somewhere within the in on 90 out of 100 occasions. The bank widen as the time horizon is extended, indicating the increasing uncertainty about outcomes. See the box on page 39 of the November 2007 *Inflation Report* for a fuller description of the fan chart and what it represents. The second dashed line is drawn at the two-year point of the projection.

should lead to a recovery in economic activity. Output will receive a further substantial boost as the inventory adjustment runs its course. But there are also factors that are likely to hinder recovery, both in the United Kingdom and abroad. Credit conditions are likely to remain restrictive as banks continue to repair their balance sheets, and past falls in asset prices and high levels of public and private debt will weigh on spending.

The timing and strength of those factors are highly uncertain. There are some encouraging signs that the Bank's asset purchases have helped to reduce the price of credit and raise the value of some assets. And money growth picked up slightly in Q2. Nevertheless, it is difficult to predict with precision the impact of the asset purchase programme on nominal spending and inflation. The effectiveness of the measures so far undertaken internationally to hasten a return to normal lending conditions is unclear, but so too is the extent to which the tightening of credit supply will prevent a recovery from taking root. High levels of public and private debt and concerns about job security may lead households to save more, although the low level of Bank Rate should dampen this. And the ease with which the United Kingdom is able to move towards a sustainable balance between domestic and external demand will depend on the degree to which current account surplus countries boost their domestic spending. On balance, the Committee continued to judge that the interaction of these factors pointed to a slow recovery in economic activity. The projected distribution for GDP growth is somewhat stronger than in the May *Report*, reflecting the increased monetary stimulus. The probability of activity contracting for a further sustained period is judged to have fallen.

Costs and prices

CPI inflation fell back to 1.8% in June, a little below the 2% target. The labour market loosened further and pay growth remained weak. Measures of households' inflation expectations were stable.

Inflation is likely to be unusually volatile in coming months, reflecting past changes in energy prices dropping out of the twelve-month comparison and the reversal of the reduction in VAT. It is more likely than not that inflation will temporarily fall below 1% in the autumn, requiring an open letter from the Governor to the Chancellor, before rebounding to around the target. Thereafter, the growing margin of spare capacity is likely to depress wage and price increases. But the impact of the lower level of demand on inflation will be dampened by the diminished supply potential of the economy.

Despite the recent appreciation of sterling, the substantial fall in the value of the exchange rate since the middle of 2007 had pushed up businesses' costs significantly. The extent to which companies have not yet fully adjusted to these higher costs and to which any further adjustment will come through higher prices rather than lower wages are key uncertainties surrounding the near-term inflation outlook.





The fan chart depicts the probability of various outcomes for CPI inflation in the future. It has been conditioned on the assumption that the stock of purchased assets financed by the issuance of central bank reserves reaches £175 billion and remains three throughout the forecast period. If economic circumstances identical to today's were to prevail on 100 occasions, the MPC's best collective judgement is that inflation in any particular quarter 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. In any particular quarter of the forecast period, inflation is therefore expected to lie somewhere within the fan on 90 out of 100 occasions. The bands widen as the time horizon is extended, indicating the increasing uncertainty about outcomes. See the box on pages 48–49 of the May 2002 *Inflation Report* for a fuller description of the fan chart and what it represents. The dashed line is drawn at the two-year point.

Chart 3 CPI inflation projection based on constant nominal interest rates at 0.5% and £175 billion asset purchases



The outlook for inflation

Chart 2 shows the Committee's best collective judgement of the outlook for CPI inflation, assuming that Bank Rate follows a path implied by market rates and the stock of assets purchased through the issuance of central bank reserves reaches £175 billion and remains at that level throughout the forecast period. The persistent margin of spare capacity bears down on CPI inflation, but that downward pressure is partly offset by the impact of sterling's depreciation on consumer prices in the near term, and by the judgement that inflation expectations remain anchored around the inflation target.

The way in which these factors will affect inflation is highly uncertain, and there is a range of views on their relative strength among Committee members. The downward pressure from the weak demand environment will depend on the timing and strength of the recovery, the impact of the slowdown on the supply capacity of the economy, and on the sensitivity of inflation to the degree of economic slack. The upward pressure from sterling's depreciation depends on the extent to which companies need to adjust further to the higher import costs and on whether this adjustment comes through higher prices or lower wages. There may also be upwards pressure on inflation from rising global energy and commodity prices if world growth picks up by more than expected. There are risks in both directions that inflation expectations may become less firmly anchored, although the Committee's commitment to maintain inflation close to target should help to limit those risks. The balance of these factors suggests that, conditioned on the monetary policy assumptions described above, inflation is more likely to be below target in the medium term than above. The projected distribution for inflation in the medium term is broadly similar to May.

Chart 3 shows the projection for CPI inflation conditioned on the assumptions that Bank Rate is held constant at 0.5% and the stock of purchased assets reaches £175 billion. This suggests that, on those assumptions, the risks of inflation being above or below the 2% target at the two-year horizon are broadly balanced, albeit that the path of inflation is rising.

The policy decision

At its August meeting, the Committee noted that the immediate prospect was for CPI inflation to fall substantially below the 2% target. Output appeared to be stabilising and the substantial stimulus from the easing in monetary and fiscal policy and the past depreciation in sterling should support a slow recovery in economic activity. But the margin of spare capacity in the economy was likely to continue to grow for some while, bearing down on inflation. In the light of that outlook, the Committee judged that to keep CPI inflation on track to meet the 2% target in the medium term it should maintain Bank Rate at 0.5% and increase the size of the programme of asset purchases financed by the issuance of central bank reserves to a total of £175 billion.

Bank Rate remained at its historic low of 0.5%. The MPC voted to increase the scale of its asset purchases financed by the issuance of central bank reserves to £175 billion. Asset purchases to date appear to have pushed down gilt yields and also to have stimulated the demand for private sector assets. But money growth remained weak in 2009 Q2. Strains within financial markets have eased. Banks' funding conditions improved, although vulnerabilities remain. Companies have made increased use of the capital markets to raise finance, but bank lending to corporates fell markedly. Despite continued tightness in household credit conditions, activity in the housing market picked up further and provided some support to house prices. Equity prices rose. The sterling effective exchange rate appreciated, but remained well below its mid-2007 level.







Sources: Bloomberg and Bank calculations.

(a) Five-year gilt yields and equivalent-maturity overnight index swap (OIS) rates. For the United States and euro area, curves show government bond yields less OIS rates.

Since the May *Report*, the MPC has maintained Bank Rate at 0.5%, and increased the stock of asset purchases financed by the issuance of central bank reserves. Over time, that substantial monetary stimulus should boost nominal demand growth and help ensure that inflation is around the 2% target in the medium term. There is evidence that purchases by the Asset Purchase Facility (APF) have pushed down gilt yields (Section 1.1). Another indicator of how asset purchases are feeding through the economy is the evolution of broad money growth (Section 1.2). And a box on page 16 discusses evidence that the APF has contributed to an improvement in corporate bond market liquidity.

The speed and magnitude of the recovery in nominal demand growth will also be influenced by the extent to which banks increase lending. That will depend on the adequacy of banks' capital positions, and on the cost and availability of their funding (Section 1.3). Bank lending growth will also depend on the demand for credit by companies and households. Sections 1.4 and 1.5 discuss developments in corporate and household credit.

1.1 Monetary policy

The MPC has maintained Bank Rate at 0.5% (Chart 1.1), the lowest level of official interest rates in the Bank's history. Overnight index swap (OIS) rates suggest that market participants' mean expectation is for Bank Rate to be increased to above 4% by the end of 2012, but alternative measures point to slower expected increases (see the box on page 41). At its August meeting, the MPC announced that the Bank would increase the stock of asset purchases financed by the issuance of central bank reserves to £175 billion, an increase of £50 billion on the stock that had been purchased by late July.

Monetary policy since the May Report

The MPC's projection for GDP growth in the May *Report*, under the assumptions that Bank Rate followed a path implied by market rates and that the stock of purchased assets financed by the issuance of central bank reserves reached £125 billion and remained at that level throughout the forecast period, was for a relatively slow recovery in economic activity over the forecast period. And the outlook for economic growth was judged unusually uncertain. Under the same assumptions, the broad shape of the MPC's projection was for CPI inflation to fall in the near term. Inflation was more likely than not to lie below the 2% target in the medium term.

In the month leading up to the MPC's meeting on 3–4 June, financial market sentiment had generally improved, although strains remained. The spread between the three-month Libor rate and the risk-free rate had fallen by nearly 20 basis points, and was broadly similar to that pertaining prior to the failure of Lehman Brothers. Long-term bank debt and corporate bond spreads had also fallen back, although they remained elevated compared to levels prior to the failure of Lehman Brothers.

Indicators for 2009 Q2 suggested that the rate of contraction in the global economy was declining and that the trough in activity might soon be reached. For example, the JPMorgan Global Manufacturing Purchasing Managers' Index (PMI) had continued to rise, reaching 45.3 in May, its highest level for nine months. But developments in near-term activity gave little insight into the likely strength and durability of the recovery in global activity.

In the United Kingdom, the CIPS/Markit survey measures of manufacturing and services output had both increased in May, with the services index pointing to increasing activity for the first time since April 2008. These surveys pointed to a smaller contraction in activity in the second quarter than had been anticipated at the time of the May *Report*.

CPI inflation had fallen sharply to 2.3% in April. The Committee continued to expect annual CPI inflation to fall back over the remainder of 2009, moving below the 2% target.

Overall, the Committee agreed that, while near-term prospects had improved somewhat, the balance of risks to inflation further out had not altered materially since its May meeting. The Committee voted unanimously that Bank Rate should be maintained at 0.5% and that no change should be made to the scale of purchases under the asset purchase programme.

In the month leading up to the MPC's meeting on 8–9 July, global equity prices had fallen, though that had reversed only

a part of the rally seen since March. Longer-term risk-free interest rates, having risen in the preceding months, had also eased back, both in the United Kingdom and in the United States.

There were further signs that the global economy was approaching a trough in activity. For example, the JPMorgan Global Composite PMI had risen closer to the level consistent with no change in economic activity.

In the United Kingdom, the downward revisions to GDP growth in the *Blue Book* in 2008 Q4 and 2009 Q1 implied that the recession was deeper than previously thought. But the survey indicators of activity in 2009 Q2 were encouraging. For example, the CIPS/Markit surveys for manufacturing and services had reached levels in June consistent with output having stabilised.

CPI inflation had fallen to 1.8% in June, from 2.2% in May. Despite that fall, inflation had been surprisingly high over a number of months given both the VAT cut and the large degree of slack that the Committee thought had opened up in the economy. The depreciation of sterling was, plausibly, one factor that helped to explain this. Indeed, the profile of CPI inflation in the United Kingdom was similar to the profiles in a number of other developed economies that had recently experienced large exchange rate depreciations. But it was also possible that those factors pushing down inflation, including the recent rise in the degree of slack in the economy, were taking longer than expected to depress the path of inflation.

Overall, little evidence had emerged since May to change the Committee's views about the broad shape of the prospects for the economy in the medium term. There had not been enough clear evidence to suggest that the £125 billion target for asset purchases should be changed at this meeting. The MPC voted unanimously to maintain Bank Rate at 0.5%, and to continue asset purchases over the month ahead as they were still short of the target level of £125 billion.

At its meeting on 5–6 August, the Committee voted to maintain the official Bank Rate paid on commercial bank reserves at 0.5%. The Committee also voted to continue with its programme of asset purchases financed by the issuance of central bank reserves and to increase the programme's size by \pounds 50 billion to a total of \pounds 175 billion.

Chart 1.3 M4 excluding intermediate OFCs^(a)



(a) Intermediate OFCs are: mortgage and housing credit corporations; non-bank credit grantors, bank holding companies; and those carrying out other activities auxiliary to financial intermediation. Banks' business with their related 'other financial intermediaries' is also excluded, based on anecdotal information provided to the Bank by several banks.





Chart 1.5 Monthly changes in gilt holdings by sector^(a)



Sources: Bank of England and Debt Management Office

(a) Non seasonally adjusted

Changes in sterling holdings of all securities issued by the public sector Net issuance by the Debt Management Office. (b) (c)

The box on page 10 discusses the factors behind the MPC's decisions in June and July.

One channel through which asset purchases by the Bank should boost nominal spending is by pushing up asset prices and lowering yields.⁽¹⁾ That boosts wealth and reduces the cost of borrowing for households and companies, both of which should increase their spending.

Yields on eligible gilts fell sharply in March, when the MPC's initial programme of asset purchases was introduced. Since then, yields have picked up across a range of maturities. In part, that pickup reflects increases in market participants' expectations of Bank Rate. One way to strip out this factor is to look at the spread between yields on UK gilts and OIS rates at the same maturity. That spread has fallen back since early 2009 (Chart 1.2) — in contrast to similar indicators in the United States and euro area, markets where the scale of central bank purchases of government bonds is smaller relative to the size of the outstanding stock. This suggests that the APF has played a role in reducing UK gilt yields relative to where they would otherwise have been.

1.2 Money

One potentially useful diagnostic of the impact of the Bank's asset purchases is the extent to which they boost the stock of broad money. Broad money growth remained weak in Q2 (Chart 1.3).⁽²⁾ That reflected continued underlying weakness in nominal demand: nominal GDP fell by 3% in Q1, and is likely to have fallen further in Q2. Absent asset purchases, it is likely that money growth would have been even weaker.

One process that is likely to have depressed money growth in Q2 is private non-financial corporations (PNFCs) using the proceeds of net equity and bond issuance to pay down bank loans. PNFCs' net issuance of bonds and equity increased markedly in Q2 (Section 1.4). Despite that, their deposits were little changed (Chart 1.4). Reports from the Bank's regional Agents suggested that could be because some PNFCs had used the proceeds of their bond and equity raising to pay down bank debt, rather than hold it on deposit. That is consistent with the fall in outstanding PNFC bank debt in Q2.

Another process that may have restrained broad money growth in recent months is banks' attempts to strengthen their capital positions. When non-bank investors purchase newly issued bank equity or long-term debt, that reduces non-bank money holdings and hence M4. It appears that investors have sold gilts and bought bank assets in recent months: the

⁽¹⁾ See the box on pages 16–17 of the May 2009 Report for further details.

⁽²⁾ As discussed in the box on page 13 of the May 2009 Report, the MPC monitors broad money as captured by M4 excluding intermediate other financial corporations (OFCs). That measure strips out institutions whose money holdings are unlikely to influence asset prices and spending, such as bank holding companies.





Sources: Bloomberg and Bank calculations

(a) Three-month Libor spread over equivalent-maturity OIS. Dashed line shows the average forward spreads derived from forward rate agreements over the fifteen working days to 5 August 2009





Source: Dealogic

(a) Issuance with a value greater than US\$500 million equivalent and original maturity greater han one year. Data are converted into sterling terms using monthly averages of th (b) Senior debt issued under HM Treasury's Credit Guarantee Scheme.





(a) Weighted response of lenders. A positive balance implies an increase in defaults (b) Weighted response of lenders. A positive observation indicates that defaults increased by more than had been expected three months earlier

non-bank private sector reduced its holdings of gilts in Q2 (Chart 1.5), and financial flows data indicated that banks' net sterling liabilities excluding deposits, which include bank equity and long-term debt, increased.

This balance sheet restructuring by PNFCs and banks has most likely been aided by the Bank's asset purchases. That is because asset purchases have increased the funds that investors have available, and reduced the return on gilts relative to those on riskier assets. Indeed, market contacts in the fund management sector have reported a noticeable shift in asset allocations away from cash and gilts and into riskier assets. Increased demand for corporate equity and bonds may have helped to reduce the cost of companies' finance and pushed up equity prices (Section 1.6). And debt issuance by banks could strengthen their financial positions and, over time, support an expansion in lending growth (Section 1.3). So, even though money growth has remained weak as companies and banks have restructured their balance sheets, the Bank's asset purchases are still likely to boost nominal spending and inflation over time. Money growth therefore needs to be taken together with a range of other indicators in order to assess the efficacy of the Bank's asset purchase programme.

1.3 Banks' funding and capital

Banks' funding conditions have improved in recent months. The average cost of funding in interbank markets has continued to fall back. And the spread between three-month Libor and OIS rates is now around its level prior to the collapse of Bear Stearns, a US securities house, in March 2008 (Chart 1.6). Although activity in these markets has picked up a little, including some lending at maturities greater than three months, it remains subdued.

Banks can also raise funds by issuing debt. Between its introduction in October 2008 and March 2009, most issuance of new unsecured debt was under the Government's Credit Guarantee Scheme (CGS) (Chart 1.7). But over the past four months, around half of issuance has been outside the CGS. That is consistent with market intelligence that investors' appetite to fund UK banks has increased. Although debt issuance fell back in June and remained subdued in July, that was in part because banks tend not to issue debt in the period running up to the publication of their results.

UK lenders have sought to strengthen their capital positions over the past six months. For example, Barclays agreed the sale of a subsidiary, Barclays Global Investors. And other lenders have strengthened their regulatory capital positions by issuing new equity and by changing existing debt at the lower end of acceptable regulatory capital into higher-quality core equity capital.⁽¹⁾ In part reflecting these efforts, a number of

(1) See Box 4 on pages 26-27 in the June 2009 Financial Stability Report.



Chart 1.9 Major UK banks' selected wholesale liabilities maturing between 2009–14

Sources: Bank of England, Bloomberg, Deutsche Bank and Bank calculations

(a) Excludes Britannia, Co-operative Bank and HSBC. Allocation across years shows the date at which market participants expect the residential mortgage-backed securities to be called.

(b) The bar shows the Government's estimate of the total amount of guaranteed debt that participating institutions will issue.

(c) The drawdown period for the Special Liquidity Scheme closed on 30 January 2009. The bar shows the total use of the Scheme.

Chart 1.10 Major UK banks' credit default swap premia^(a)



Sources: Markit Group Limited, Thomson Datastream, published accounts and Bank calculations.

(a) The data show a weighted average of the credit default swap premia of nine major UK banks, weighted by each bank's share in total assets.





(a) Sterling lending excluding the effects of securitisations and loan transfers.

(b) Nominal GDP at market prices in 2009 Q2 is an estimate based on the assumption that nominal GDP falls at the same rate as real GDP as estimated in the preliminary GDP release

(c) Recessions are defined as two consecutive quarters of falling output (at constant market prices) estimated using the latest data. The recessions are assumed to end once output began to rise, apart from the 1970s where two separate occasions of falling output are treated as a single recession.

(d) Sum of: secured lending to households; unsecured lending to households; and lending to unincorporated businesses and non-profit making institutions serving households, over the periods where data are available. UK banks reported reductions in their leverage ratios in their 2009 H1 accounts.

The extent to which actions to strengthen capital positions will be sufficient to support a pickup in lending will depend on banks' potential losses. On balance, lenders responding to the Q2 Credit Conditions Survey reported that defaults and losses given default had picked up across a range of loans, but by less than they had expected a quarter earlier (Chart 1.8 shows this for loans to medium-sized PNFCs). In addition, two major UK banks have indicated their intention to take out insurance against severe losses on certain assets by participating in the Asset Protection Scheme.

Overall, there has been some stabilisation in banks' finances. But the banking sector remains fragile. For example, the major UK banks will need to replace a significant amount of maturing funding in the coming years, including the substantial support provided by the official sector to help banks through the crisis (Chart 1.9). And concerns about banks' capital may still be pushing up funding costs: the amount of capital raised so far has been small relative to the sizes of banks' balance sheets; and there remains considerable uncertainty over the level of capital that banks will need to hold in future to attract a normal level of funding. Consistent with those concerns, UK banks' credit default swap premia remain elevated (Chart 1.10). The extent to which capital concerns and funding difficulties limit bank lending growth remains a key factor that may hinder the recovery in spending in the medium term (Section 5).

1.4 Corporate credit conditions

Banking sector pressures, combined with the weakening outlook, have led to a tightening in the supply of corporate bank loans. Indeed, survey evidence suggests that credit remains a constraint on output for some companies (Section 3). But the demand for bank lending also appears to have fallen back as activity has contracted. Net lending to PNFCs typically falls relative to GDP during recessions, and can be slow to recover (Chart 1.11). This subsection discusses recent developments in bank lending and other sources of finance to PNFCs.

Bank lending

Bank lending to companies fell markedly in 2009 Q2 (Chart 1.12). That is likely to reflect both weaker growth in the origination of new loans and facilities, and some companies paying down bank debt (Section 1.2).

Changes in the cost of borrowing suggest that this reduction in lending reflects tighter supply at least in part. In the Q2 *Credit Conditions Survey*, lenders reported that they had increased fees, commissions and spreads on corporate loans. In part, higher charges may reflect lenders' increased concerns over





(b) This group comprises Banco Santander, Barclays, HSBC, Lloyds Banking Group and Royal Bank of Scotland. Calculated as a residual

Per cent

	2008		2	2009	
	Sep.	Dec.	Mar.	June	
New business ^(a)					
Fixed	6.5	3.6	2.5	2.1	
Variable	6.6	3.9	2.7	2.1	
Outstanding stock ^(b)					
Fixed	7.0	6.1	4.1	3.5	
Variable	6.7	4.4	2.7	2.4	
Overdrafts	6.9	4.9	3.2	3.2	

(a) Weighted average of interest rates paid on new loans

(b) Weighted average of interest rates paid on outstanding balances of all loans

Medium-sized PNFCs Large-sized PNFCs Net percentage balances^(a) 40 30 20 10 0 10 20 30 40 50 60 Q2 03 Q4 Q1 Q2 Q3 Q4 01 Q2 2007 08 09

Chart 1.13 Credit Conditions Survey: demand for lending

(a) Weighted responses of lenders. A positive balance indicates an increase in demand for

the riskiness of loans. But elevated spreads could also reflect continued pressures on banks' funding and capital positions, as discussed in Section 1.3. In contrast to the survey evidence, official data suggest that rates facing businesses have come down (Table 1.A), and spreads are little changed. That could be because these effective rates are depressed by some existing borrowers drawing down committed lines of credit at previously agreed spreads, or because lenders are restricting their lending to higher-quality borrowers, who tend to be charged lower interest rates than riskier borrowers. In either case, these official rates, which also exclude fees, are unlikely to be a good indicator of the changes in the cost of borrowing for many businesses.

In addition to major UK lenders cutting back on lending, some foreign lenders have withdrawn from the UK market entirely. These lenders played a key role in the expansion of credit over 2006–07, but their lending has since fallen back sharply (Chart 1.12).

The reported increases in spreads, fees and commissions, combined with the withdrawal of lenders from the UK market, may particularly constrain companies that need to refinance existing loans. For example, some contacts have told the Bank's regional Agents that their auditors required them to secure refinancing before signing off their accounts, perhaps reflecting concerns over the future availability of finance. Indeed, some companies have paid a premium to refinance existing lending early (using so-called 'forward-start' agreements), according to reports from the major UK banks.

The weakness in bank lending is also likely to reflect weak demand for credit. Lenders responding to the Q2 Credit Conditions Survey reported that large and medium-sized corporates' demand for bank lending was broadly unchanged on the quarter, following substantial falls over the preceding year (Chart 1.13). In part, that weakness may reflect increased charges: demand for credit would be expected to fall given an increase in its cost. But continued weakness in economic activity, and conditions in specific markets, are also likely to have depressed the demand for credit. For example, the margin of spare capacity within businesses may have reduced companies' demand for credit to finance investment (Section 2). And commercial property prices continued to fall sharply in Q2, which may have pushed down lending related to real estate.

Other sources of finance

Companies' net issuance of equity and bonds has increased sharply in recent months (Chart 1.14 and Table 1.B). But overall finance raised remains low relative to the levels typically raised in the years immediately prior to the financial crisis. The Bank's programme of asset purchases should support companies' issuance of bonds and equity by increasing the funds available to investors, and reducing the return on

Table 1.A Effective interest rates on borrowing by PNFCs



Chart 1.14 PNFCs' net finance raised^(a)

(a) Three-month rolling averages. Includes sterling and foreign currency funds

(b) Non seasonally adjusted

Includes stand alone and program bonds. Owing to the method of seasonal adjustment of this series, the total may not equal the sum (d)of its components.

Table 1.B PNFCs' equity and debt issuance(a)

£ billions

	Averag	20	009	
	2003–07	2008	Q1	Q2
Equities				
Net issuance	-0.8	-0.3	3.1	4.4
Gross issuance	0.8	1.0	3.1	4.5
Repayments	1.6	1.3	0.0	0.0
Corporate bonds ^(b)				
Net issuance	1.1	0.8	0.1	2.8
Gross issuance	2.5	2.6	4.7	5.2
Repayments	1.3	1.8	4.6	2.4
Commercial paper				
Net issuance	0.0	0.0	-1.1	-0.2
Gross issuance	4.2	5.1	6.0	3.8
Repayments	4.3	5.0	7.1	4.0

(a) Averages of monthly flows of sterling and foreign currency funds. Data are non seasonally adjusted. Net issuance is equal to gross issuance less repayments. (b) Includes stand alone and program bonds.

Chart 1.15 Survey measures of the attractiveness of different sources of finance



Source: The Deloitte CFO Survey 2009 Q2

(a) Net percentage balances are calculated as the percentage of respondents who thought that each source of funding was attractive less the percentage who thought it was unattractive.

gilts relative to riskier assets. In Q2, two companies issued sterling sub-investment grade bonds, the first such issues since the onset of the financial market crisis.

Corporate bond yields have fallen since the start of 2009, reducing the cost of borrowing for some companies. Since March, the Bank, via the APF, has acted as a backstop in the sterling corporate bond market, with the aim of reducing the cost of borrowing through improving market liquidity. As the box on page 16 discusses, the APF does appear to have reduced illiquidity premia on corporate bonds that are eligible for purchase. In addition, concerns about default risk also appear to have fallen, reducing yields on a wider range of corporate debt. Overall, a greater proportion of respondents to the Q2 Deloitte CFO Survey reported that corporate debt and equity raising were attractive forms of finance than in recent quarters (Chart 1.15).

Commercial paper is used by some companies as a form of short-term finance. As part of the APF, the Bank has offered to purchase commercial paper at a set spread to OIS rates, with the aim of providing a ceiling on funding costs in this market. Spreads on the bulk of high-quality sterling commercial paper sales have fallen close to, or below, those offered by the APF in recent months - implying that market functioning is improving. And as a result, the Bank has only purchased small amounts. Both gross and net issuance of commercial paper were below average levels in Q2 (Table 1.B), in part reflecting a switch into longer-term corporate bond issuance by some companies, according to market contacts. In late July, the asset purchase programme was extended to include purchases of secured commercial paper.

The supply of trade credit finance has remained restricted. For example, in a recent survey by the Bank's regional Agents, almost all businesses who reported reduced use of trade credit insurance attributed it to the lower supply of finance. Since June, the Bank has been discussing with companies the scope for supply chain financing to companies supplying UK investment-grade corporates. That could potentially ease financial strains on smaller companies that are unable to access capital markets.

1.5 Household credit conditions and the housing market

Household credit conditions

Growth in the stock of loans to individuals weakened further in Q2 (Table 1.C), reflecting lower growth in the stock of secured loans. Net lending to the household sector often falls back during recessions relative to GDP (Chart 1.11).

The availability of secured lending remains restricted, although there has been some sign of improvement. As discussed in

Liquidity in corporate bond markets

As financial market dislocation and the global economic downturn intensified in 2008 H2, corporate bond spreads picked up sharply, increasing the cost of finance for some companies. Part of the reason for that increase in spreads was heightened concern about possible losses. But volumes traded fell sharply, and higher spreads also reflected increased concerns that it would be difficult to sell on such bonds in the future, that is illiquidity premia rose. The Bank's willingness, through the APF, to act as a backstop buyer of high-quality corporate bonds is intended to help ease such unusual liquidity problems, and hence reduce the cost of borrowing. This box assesses the progress of that initiative to date.

Estimating illiquidity premia

It is difficult to assess market participants' expectations about the ease with which they will be able to sell corporate bonds. But it is easier to identify the compensation required for the risk that companies may default on their debt obligations. As a result, illiquidity premia are often proxied by corporate bond spreads less an estimate of the compensation for default risk.

One measure of the compensation required for bearing default risk is the price investors are willing to pay to insure against that risk. This is captured by credit default swaps (CDS), which pay out if a 'credit event' occurs — for example, if the company defaults on bond payments. Although the prices of these instruments will themselves depend on concerns about liquidity and default in the CDS market, market contacts suggest that they provide a reasonable proxy for credit risk. That said, any changes in the wedge between corporate bond spreads and CDS premia that are driven by changes in CDS premia, rather than by changes in corporate bond spreads themselves, may be less informative about changes in corporate bond market liquidity.

Chart A shows the difference between corporate bond spreads and CDS premia, sometimes known as the 'basis', for a range of bonds. For those bonds that are eligible for purchase by the APF (around 40% of non-bank investment-grade sterling corporate bonds),⁽¹⁾ there appears to have been some improvement in market liquidity, as the basis has fallen back since the announcement of the APF (**Chart A**). That fall reflected corporate bond spreads declining faster than CDS premia. The basis on non-eligible sterling bonds, however, is little changed since late 2008.

Liquidity also appears to have improved for corporate bonds denominated in euros. This improvement is similar to that seen for eligible sterling bonds, suggesting that, in part, the improvement in the sterling eligible bond market may reflect factors other than APF purchases. For example, market

Chart A Non-bank investment-grade corporate bond spreads less CDS premia^(a)



Euro-denominated



Sources: UBS Delta and Bank calculations.

(a) The data are based on individual corporate bond spreads (relative to asset swaps) less their corresponding CDS premia across the non-bank investment-grade market. The maturity of the bonds used in this calculation may not necessarily match the maturity of the corresponding CDS premia, as data are typically only available for five-year CDS. The chart shows median measures.

contacts report that market functioning has improved in the euro bond market, and that may have spilled over into the sterling market.

Other indicators of illiquidity

Other indicators of market liquidity have also improved since the announcement of the APF. Market contacts report better price transparency and market functioning in recent months. And the spread between the price at which market makers are prepared to sell corporate bonds and the price at which they are prepared to buy has narrowed, perhaps signalling that market makers require less compensation for the risk that they cannot sell on corporate bonds quickly.

Conclusion

The purchases of corporate bonds by the APF are designed to improve the functioning of the market, so the impact of the programme needs to be judged by market liquidity, not by the size of the stock of purchased assets. Indeed, although the APF has only purchased a relatively small amount of corporate bonds to date, around \pounds 0.9 billion, market liquidity does appear to have improved, at least for eligible bonds. But it appears that concerns over future liquidity are still putting some upward pressure on corporate bond spreads, suggesting a further improvement is possible.

⁽¹⁾ APF eligibility criteria include: bonds must be issued by companies that make a material contribution to economic activity in the United Kingdom; bonds must be conventional senior, unsubordinated debt; bonds must have a certain minimum long-term credit rating; and bonds must be cleared and settled through Euroclear and/or Clearstream. For a full list of eligibility criteria, see www.bankofengland.co.uk/markets/marketnotice090319.pdf.

Table 1.C Loans to individuals

Annualised percentage changes on three months earlier

	Averages	(a)	20	009
	1998–2007	2008	Q1	Q2
Total lending	11.0	3.8	0.9	0.5
Secured	10.6	3.5	1.0	0.5
Consumer credit	12.7	5.2	0.2	0.6
of which, credit card	16.5	8.0	5.5	4.7
of which, other unsecured	11.5	4.3	-1.3	-0.6

(a) Averages of end-quarter observations.

Chart 1.16 Credit Conditions Survey: availability of secured lending to households



(a) Weighted responses of lenders. A positive balance indicates that more secured credit is available. The expectations balances have been moved forward one quarter so that they can be compared with the actual outturns in the following quarter.





Sources: Bank of England and Bloomberg.

(a) On mortgages with a loan to value ratio of 75%(b) Monthly averages of daily data.

previous *Reports*, some smaller lenders have withdrawn from the UK market altogether. But those lenders operating in the United Kingdom and responding to the Q2 *Credit Conditions Survey* reported an increase in availability of secured lending, the first significantly positive balance since the survey began in 2007 Q2 (Chart 1.16). And the number of mortgage products available at higher loan to value ratios, such as those over 90%, has increased slightly in recent months, according to Moneyfacts Group.

Interest rates charged on unsecured credit remain elevated relative to Bank Rate, as do those on secured lending relative to swap rates and Bank Rate. Quoted interest rates on many forms of unsecured credit have been little changed as Bank Rate has been cut. And, although quoted rates on secured loans fell back over 2008 H2 (as shown for two-year fixed rates in **Chart 1.17**), swap rates fell more markedly. Since May, two-year quoted fixed mortgage rates have picked up, while swap rates have been little changed.

Lenders reported a further reduction in the demand for unsecured credit in the Q2 *Credit Conditions Survey*, but an increase in demand for borrowing for house purchase. Both the continuing high cost of unsecured credit and households' desire to cut back on spending (Section 2) could be depressing demand for unsecured credit. The pickup in demand for secured credit occurred despite a small rise in borrowing rates over the past three months.

Housing market

Consistent with the reported increased mortgage demand, housing market activity has continued to recover modestly in recent months (Table 1.D). The number of loans approved for house purchase rose to 48,000 in June, up from a low of around 27,000 in November 2008. Over time, increasing approvals should feed through into higher growth in the stock of secured loans. But that impact is likely to be modest: approvals remain at around half of their average level since 2000.

The recovery in housing market activity may have helped support house prices, which are typically related to activity with a lag. According to the Halifax and Nationwide measures, house prices have stabilised in recent months (Table 1.D).

The improvement in the housing market could reflect a number of related factors. First, buying property may have become more affordable: house prices are considerably below their 2007 peaks, and the cost of secured borrowing has fallen since mid-2008. Second, credit availability has improved a little. Third, concerns about the possible severity of the recession may have lessened: households' confidence has picked up from the very low levels seen around the turn of the year (Section 3).

Table 1.D Housing market indicators^(a)

	Averages			2009		
S	ince 2000	Apr.	May	June	July	
Activity						
Mortgage approvals (000s) ^(b)	97	44	44	48	n.a.	
RICS sales to stocks ratio ^(c)	0.39	0.15	0.20	0.22	n.a.	
RICS new buyer enquiries ^(d)	-4	45	50	67	n.a.	
HBF net reservations ^{(e)(f)}	-8	11	23	21	n.a.	
HBF site visits ^{(e)(f)}	-15	4	4	1	n.a.	
Prices						
Halifax ^(g)	1.8	-3.3	-3.1	-2.3	0.8	
Nationwide ^(g)	2.0	-2.9	-0.3	1.0	2.6	
Average of lenders' indices $\!\!\!^{(g)}$	1.9	-3.1	-1.7	-0.6	1.7	

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

Averages of monthly data. All series are percentage balances unless otherwise stated.

(b) Loan approvals for house purchase

Ratio of sales recorded over the past three months relative to the level of stocks on estate agents' books at the end of the month. (c) (d) Compared with the previous month

Compared with a year earlier. Seasonally adjusted by Bank staff.

Three-month percentage changes. The published Halifax index has been adjusted in 2002 by Bank staff to account for a change in the method of calculation.



Chart 1.18 International equity prices^(a)

Sources: Bank of England and Thomson Datastream (a) In common currency (US dollar) terms



The recovery in the housing market remains fragile, however. For example, lenders reporting to the Lending Panel suggested that approved mortgages have been more than usually prone to cancellation before lending is advanced.⁽¹⁾

1.6 Equity prices and exchange rates

Equity prices

Equity prices have increased further internationally since their troughs of early March (Chart 1.18), although they remain well below their levels at the start of 2008. In the fifteen working days to 5 August, the FTSE All-Share was 9.7% higher in sterling terms than at the time of the May Report. The increase has been fairly broadly based across sectors. That suggests that the rise in part reflects an improvement in the near-term macroeconomic outlook (Section 2). Uncertainty about the outlook also seems to have fallen: equity price implied volatility has fallen back from very elevated levels during late 2008 to around its average over the past decade.

Exchange rates

The sterling effective exchange rate index was 5.8% higher in the run-up to the August Report than at the time of the May Report (Chart 1.19). But it remains around 20% below its mid-2007 peak.

The appreciation since the time of the May *Report* may, in part, be explained by relative cyclical factors. Although the recovery in near-term activity indicators has been relatively synchronised across countries (Section 2), expectations of UK interest rates have risen a little relative to those in other countries.

The appreciation could also, in part, reflect a reassessment by market participants of the riskiness of holding sterling assets. During the second half of 2008, investors seemed to believe that the risks to the UK outlook had increased relative to those in other countries — perhaps due to the United Kingdom's relatively large financial sector. Investors may have reassessed that belief as the outlook has improved. Such a fall in the perceived risk of holding sterling assets relative to those denominated in other currencies pushes down the return required by investors for holding sterling assets.

(1) For a fuller discussion, see Trends in Lending, July 2009

2 Demand

UK GDP fell by 2.4% in 2009 Q1. Consumer spending fell markedly. Business and dwellings investment plummeted and companies continued to reduce inventories rapidly. Global economic activity also contracted markedly in Q1, causing UK exports to fall very sharply. But there was a similar fall in UK imports, such that net trade made a small positive contribution to growth. Indicators of near-term activity suggest that the pace of economic contraction has moderated, both at home and abroad. The ONS provisionally estimated that UK GDP fell by 0.8% in Q2.



(a) At current market prices

Table 2.A Expenditure components of demand^(a)

Percentage changes on a quarter earlier

	Averages		20	800	2009	
	2007	2008 H1	Q3	Q4	Q1	
Household consumption ^(b)	0.6	0.5	-0.3	-1.1	-1.3	
Government consumption	0.3	1.0	0.5	1.1	0.2	
Investment	1.2	-2.0	-2.8	-1.2	-7.5	
of which, business investment	2.0	-0.6	-0.7	-0.6	-7.6	
of which, dwellings investment ^(c)	-0.5	-3.2	-7.1	-3.3	-12.5	
Final domestic demand	0.6	0.2	-0.6	-0.7	-2.0	
Change in inventories ^{(d)(e)}	0.0	0.1	-0.6	-1.1	-0.1	
Alignment adjustment ^(e)	0.2	-0.2	0.4	-0.6	-0.3	
Domestic demand	0.8	0.1	-0.8	-2.3	-2.5	
'Economic' exports ^(f)	0.9	0.3	-0.3	-3.9	-7.0	
'Economic' imports ^(f)	1.4	-0.9	-0.7	-5.3	-6.7	
Net trade ^(e)	-0.2	0.3	0.1	0.5	0.1	
Real GDP at market prices	0.6	0.4	-0.7	-1.8	-2.4	

(a) Chained-volume measures.
 (b) Includes non-profit institutions serving households
 (c) Whole-economy dwellings investment.

(d) Excludes the alignment adjustment.
 (e) Percentage point contributions to quarterly growth of real GDP.
 (f) Goods and services, excluding the estimated impact of missing trader intra-community (MTIC) fraud.

The synchronised downturn across the advanced economies intensified in 2009 Q1. Real GDP contracted sharply both in the United Kingdom (Section 2.1) and across most of the United Kingdom's major trading partners (Section 2.2). More recent indicators of activity, both at home and abroad, suggested that the pace of economic contraction had moderated. In the United Kingdom, the ONS provisionally estimated that GDP fell by 0.8% in Q2 (Section 3).

Domestic demand 2.1

In the United Kingdom, nominal GDP fell by 3% in Q1, the sharpest decline since the quarterly series began in 1955 (Chart 2.1). Real GDP fell by 2.4%, reflecting marked falls in household consumption, whole-economy investment and exports (Table 2.A). But imports also fell, such that net trade made a positive contribution to GDP growth for the fifth successive quarter.

The latest set of National Accounts contained revisions to GDP and its components as part of the ONS's annual Blue Book process. Quarterly GDP growth was revised up, on average, in 2004 and 2005, but down in 2006 and 2007 (see the box on page 20).

Recent trends in household spending

Household spending contracted by 1.3% in Q1. That was the fourth consecutive decline in consumer spending and the sharpest quarterly fall since 1980. The fall in Q1 was driven by weaker spending on services, although spending on goods (excluding cars) and net tourism also declined (Chart 2.2).

More timely indicators suggest that the pace of contraction in consumption moderated in Q2. Retail sales picked up by 0.7% and annual growth in private new car registrations bounced back sharply. Surveys of service sector output, as well as reports from the Bank's regional Agents, pointed to a more moderate rate of decline in services consumption in Q2.

Revisions to the National Accounts

The ONS publishes GDP estimates on a quarterly basis. These estimates are usually revised over time as additional information becomes available. Additionally, once a year the ONS conducts a more comprehensive exercise, which improves the quality of the estimates by assimilating a much wider range of information, and incorporating improvements in data estimation methodology. The results of these exercises are published in the Blue Book, which in 2009 included revisions to GDP and its components back to 2004.⁽¹⁾ This box discusses the main revisions.

When forming its projections for GDP growth, the MPC accounts for the possibility that official statistics may get revised over time. The MPC's assessment of the path of growth over the past, which is constructed using information about the pattern of past revisions, the time-series properties of the official statistics, business surveys and Committee judgement, is summarised in its quarterly 'backcast'.⁽²⁾ There is always significant uncertainty about the pattern and timing of revisions, but more mature data should provide a more accurate account of growth over the past. Therefore, the MPC attaches more weight to the official data as they undergo successive Blue Book revisions.

The MPC's May 'backcast' implied that GDP growth was marginally more likely to be revised up than down over the recent past. In the event, quarterly GDP growth was revised up, on average, in 2004 and 2005, but down in 2006 and 2007 (Chart A). As a result, the profile for four-quarter growth between 2005 and 2008 Q1 appears smoother than originally estimated. These latest revisions left the level of real GDP in 2009 Q1 0.8% lower than estimated at the time of the May Report. These revisions have been incorporated in the MPC's updated 'backcast', shown in Chart 5.1 (Section 5).

0

08 09 6

0

Chart A GDP at market prices^(a)

.....

2003

(a) Chained-volume measure

Data available at the time of the May Report Latest data Percentage changes On a vear earlie

On a quarter earlier

On the expenditure side of the accounts, the most notable revisions were to the pattern of real consumption growth, which was revised up in 2004 and 2005, but down subsequently (Table 1). By contrast, whole-economy investment growth was revised up in each year since 2004. The net trade contribution was revised up by 0.2 percentage points per year in 2006–08, mainly reflecting upward revisions to export growth.

The household saving ratio was revised down, with particularly marked revisions in 2005 and 2006 (Table 1). In those years, the revisions reflected both higher nominal consumption, and lower nominal income than had been previously estimated. Over 2008 as a whole, the household sector is estimated to have saved 1.7% of its income — the lowest annual saving ratio since 1959.

Table 1 Revisions to GDP, selected expenditure components and the household saving ratio since the May Report^(a)

Percentage points

	2004	2005	2006	2007	2008	Cumulative change in level (per cent)
GDP ^(b)	0.2	0.1	0.0	-0.5	0.0	-0.8
Consumption ^(c)	0.1	0.2	-0.4	-0.6	-0.1	-1.3
Investment	0.1	0.0	0.1	0.2	0.0	2.4
Government	0.0	0.1	0.0	-0.1	-0.1	-1.3
'Economic' exports ^(d)	0.0	-0.1	0.0	0.4	0.2	2.2
'Economic' imports ^(d)	0.0	0.0	-0.3	0.2	0.0	0.2
Net trade ^(d)	0.0	-0.1	0.2	0.2	0.2	n.a.
Household saving ratio ^(e)	-0.3	-1.1	-1.3	0.0	-0.2	n.a.

(a) Percentage point revisions to contributions to calendar-year GDP growth at market prices (chained-volume

(b) Percentage point revisions to calendar-year GDP growth at market prices

(c) Including non-profit institutions serving households

 (c) Including the relation is serving industriated impact of MTIC fraud.
 (e) Percentage point revisions to the household saving ratio, which is measured as savings as a percentage of households' total post-tax income (not adjusted to account for the impact of Financial Intermediation Services Indirectly Measured (FISIM)).



(2) See Cunningham, A and Jeffery, C (2007), 'Extracting a better signal from uncertain data', Bank of England Quarterly Bulletin, Vol. 47, No. 3, pages 364-75.







(a) Excluding non-profit institutions serving households. Figures in parentheses are shares in total real consumption in 2008. Shares may not sum to 100 due to rounding.





 ⁽a) General government benefits inmuse improves tractional insurance contributions.
 (b) Consumer expenditure deflator (including non-profit institutions serving households)
 (c) Household taxes include income tax and Council Tax.
 (d) Wages and salaries plus mixed income.

Chart 2.4 Survey measures of income and unemployment expectations



Source: Research carried out by GfK NOP on behalf of the European Commission.

Nonetheless, consumption is likely to remain subdued in the coming quarters. The next subsection outlines the main factors that are likely to have pulled down consumer spending over the past year, and may keep spending subdued in the near term.

Influences on household spending

Households' incomes are a key determinant of their spending. Labour income growth weakened markedly during 2008 Q4 and 2009 Q1. And despite lower inflation, reduced taxes and increased net benefit payments, households' real post-tax labour income growth was also muted (Chart 2.3). Changes in current income may have been a particularly important influence on spending for those households that have experienced difficulty accessing credit, given tight credit conditions (Section 1) and the reduction in housing equity brought about by falls in house prices over the past year.

It is not only changes in current income that affect households' spending and savings decisions, however. Expectations of future income also matter. In practice, it is difficult to assess the way in which lifetime income expectations change over time. But households may have revised down their earnings expectations following the deterioration in the medium-term economic outlook: a survey measure of income expectations, one imperfect proxy for changes in permanent income, has fallen sharply since the onset of the financial crisis and remains low (Chart 2.4). And following the 2009 Budget, households may believe that closing the public sector deficit will require a rise in future taxes. A reduction in households' lifetime income expectations would cause a sharp downward adjustment to the level of consumption, but might have fewer implications for spending growth thereafter.

Sharp falls in the value of financial assets in the year to 2009 Q1 may also have led some households to reassess their lifetime resources, and so their spending. But the extent to which lower financial wealth will depress consumption is unclear. Around half of households' financial assets are held indirectly in life assurance and pension funds, so it may take time for some households to realise how the value of their assets has changed. And, in the past, households appear to have looked through changes in asset prices: changes in net financial wealth have not typically been associated with changes in households' accumulation of financial assets and therefore their savings (**Chart 2.5**). In addition, instead of saving more, some households may react to reduced financial wealth by increasing their labour supply, in an attempt to boost their lifetime employment income (Section 3).

Households may, however, choose to increase their savings as a precaution against any future reduction in their income, perhaps if they have become more uncertain about future job prospects. Households' expectations of future changes in unemployment rose to a record high at the start of 2009, although they have since fallen back slightly (Chart 2.4).

⁽a) The question asks how households expect unemployment to change over the next twelve

months.
 (b) The question asks how households expect their personal financial situation to change over the next twelve months.





Sources: ONS and Bank calculations

(a) Annual data. Including non-profit institutions serving households. The 2009 diamonds are (b) Adjusted to account for the impact of FISIM.
 (c) Calculated using the household financial balance from the income and capital account.



Sources: ONS and Bank calculations

(a) Households' interest payments expressed as a percentage of households' total post-tax income. Both series have been adjusted to account for the impact of FISIM. Includes non-profit institutions serving households. The interest payments series excludes the impact of Mortgage Interest Relief at Source.

Table 2.B Mortgage arrears and repossessions

		Series high	2008		2008 2009	
			H1	H2	Q1	
Mortgage arrears ^(a)						
Three to six months	1.82	(1994 H1) ^(b)	0.73	1.01	1.11	
Six to twelve months	2.07	(1992 H2)	0.41	0.62	0.82	
More than twelve months	1.58	(1993 H1)	0.15	0.25	0.46	
By more than 2.5% of outstanding balance	4.12	(1995 H1)	1.19	1.57	1.85	
Repossessions ^(c)	0.40	(1991 H2)	0.16	0.18	0.20	

Source: Council of Mortgage Lenders.

Mortgages in arrears as a percentage of outstanding mortgages, at the end of the specified period

Earliest observation. Flow of repossessions during each period, as a percentage of outstanding mortgages. The latest observation is based on the flow of repossessions in the half-year to 2009 Q1. Increased uncertainty about future income may in particular encourage those households who have amassed significant amounts of debt to reduce consumption in order to increase savings or pay back debt. The stock of household debt increased rapidly over the past decade, as house prices rose and homebuyers took on larger mortgages. Although falls in household interest rates since late 2008 (Section 1) have reduced the aggregate debt-servicing burden (Chart 2.6), some households may still find it difficult to service their debts at present, or may be concerned about their ability to service their debts in the future. Indeed, mortgage arrears and repossessions picked up further in 2009 Q1, although they remain well below their early 1990s' peaks (Table 2.B).

Overall, the prospects for consumption over the rest of the year remain uncertain. The falls in consumption to date indicate that a substantial adjustment has already occurred. And some households have received a boost to their disposable income as household interest rates have fallen. But prospects for labour income growth remain subdued, given increases in unemployment (Section 3) and weak nominal wage growth (Section 4). Household credit conditions remain tight (Section 1). And, for some households, balance sheets remain highly leveraged. The prospects for household consumption and saving over the forecast period are discussed in Section 5.

Investment

Whole-economy investment has been a significant drag on growth since the start of the recession. That has been driven primarily by housing and business investment, which each detracted around 1 percentage point from four-quarter GDP growth in Q1.

Dwellings investment fell by over 12% in Q1 (Table 2.A). The tentative signs of stabilisation in the housing market (Section 1) may limit further falls in investment in new dwellings. But overall housing investment will be constrained if the forces bearing down on consumption also reduce spending on improvements to existing property in the coming quarters.

Business investment fell by nearly 8% in Q1 (Table 2.A). Much of that fall is likely to have reflected the weakness of demand and the associated increase in spare capacity within businesses (Section 3). According to the latest CBI surveys, a majority of businesses reported that the demand outlook continued to weigh on investment plans in Q2 (Chart 2.7). The weakness in demand is likely to continue to stifle investment for some time: during downturns, business investment has fallen more markedly, and recovered more slowly, than overall GDP (Chart 2.8).

Tighter credit conditions have also contributed to the falls in investment over the past year. The constraints on the supply of bank lending (Section 1) are likely to have hindered



Sources: CBI, CBI/PwC and ONS.

(a) Measures weight together sectoral surveys using shares in real business investment. Companies are asked for their twelve-month forecast of factors likely to limit capital expenditure authorisations. Financial services companies are not asked to distinguish between a shortage of internal, and availability of external, finance, so their single response is used for both questions.

Chart 2.8 Business investment(a)

UK recessions(b)



(a) Chained-volume measure

(b) Recessions are defined as two consecutive quarters of falling output (at constant market prices) estimated using the latest data. The recessions are assumed to end once output began to rise.

(c) Chained-volume measure at market prices.

Chart 2.9 Whole-economy stock level^(a)



(a) Based on the level of stocks at the end of 2008 Q4 and stockbuilding, excluding the alignment adjustment. investment, particularly among small businesses, which tend to rely heavily on bank credit as a source of external finance. In contrast, larger businesses, which accounted for around two thirds of UK corporate investment in 2005,⁽¹⁾ may be able to replace bank lending with funds raised in debt and equity markets. Both gross and net bond and equity issuance increased in recent months (Section 1). Overall, however, the proportion of businesses reporting the availability of external finance as a constraint on investment spending in 2009 Q2 remained more than double its average since 1999 (**Chart 2.7**).

Some businesses may be able to finance investment without recourse to the banks by using internal resources, such as retained profits. The corporate sector financial balance is estimated to have been in persistent surplus since 2002, and to have picked up sharply in 2009 Q1. That implies that, in aggregate, some expansion in spending could be financed out of past profits. And according to the latest CBI surveys, a smaller proportion of businesses thought that shortages of internal finance were constraining investment in Q2, than over the past decade on average (Chart 2.7).

Nonetheless, prospects for business investment remain bleak. According to the BCC, investment intentions in Q2 remained weaker than at any point during the early 1990s recession. And the Bank's regional Agents report that, in the current economic climate, businesses prefer to hold on to their internal funds, both as a precaution against further falls in demand and due to concerns about the availability of working capital.

Stockbuilding

Companies continued to run down inventories at an unprecedented rate in 2009 Q1, with whole-economy stocks estimated to have fallen by 2.3% (Chart 2.9). That was an even sharper contraction than experienced in 2008 Q4, which at the time was the largest fall in stocks since the series began in 1955. In the near term, growth should be supported by a turnaround in the stock cycle: any moderation in the pace of de-stocking would have boosted GDP growth in Q2 (Section 3).⁽²⁾

Government spending

The MPC's projections are conditioned on the plans set out in the 2009 Budget. Those plans imply a marked rise in net borrowing, which peaks at around 12% of nominal GDP (Chart 2.10). Given the increases in borrowing, the ratio of public sector debt to GDP is projected to rise markedly. But the temporary operating rule laid out in the 2008 Pre-Budget Report states that the Government will set policies to improve the cyclically adjusted current budget and the debt to GDP ratio once the economy emerges from the downturn and the global shocks have worked their way through the economy in

(1) See the box on page 22 of the November 2007 Report.

⁽²⁾ See the box on page 26 of the May 2009 *Report*.





Source: HM Treasury.

(a) The chart shows financial year net borrowing data. The orange bars show HM Treasury 2009 Budget forecasts.





Source: IMF

(a) The IMF forecasts are from the April 2009 World Economic Outlook (WEO) and the July 2009 WEO Update.
(b) Based on 33 advanced economies, including the United States, the euro area, Iapan and the

United Kingdom. (c) Based on 139 emerging and developing economies, including Brazil, China, India and Russia.

Table 2.C Domestic demand in the United Kingdom's major trading partners^(a)

Percentage changes on a quarter earlier

	Averages		2008		2009		
	2000–07	Q3	Q4	Q1	Q2		
Euro area	0.5	0.3	-0.8	-2.0	n.a.		
United States	0.6	-0.6	-1.4	-2.2	-0.6		
Japan	0.3	-0.7	-0.3	-2.3	n.a.		

Sources: Bureau of Economic Analysis, Eurostat, Japanese Cabinet Office and Thomson Datastream

(a) Chained-volume measures

full. That will likely require some combination of lower government spending and higher taxes, as shares of GDP.

Imports

UK import volumes fell by nearly 7% in Q1, reflecting the influence of two factors. First, the sharp fall in domestic spending has reduced demand for imported goods and services. Second, the lower level of sterling has pushed up import prices (Section 4), and encouraged both businesses and consumers to switch expenditure away from imports, towards domestically produced goods and services. Data on trade in goods for April and May suggest that total import volumes may have fallen further in Q2.

2.2 The international economy

Much of the world economy remained in recession in 2009 Q1, with levels of activity in many countries significantly lower than a year ago. But there were more encouraging signs looking ahead. Near-term indicators, such as the JPMorgan Global Activity index, continued to improve and pointed to a moderation in the pace of economic contraction in Q2. And despite small downward revisions to their 2009 forecasts, the IMF revised up their global growth projections for 2010 (Chart 2.11). This subsection discusses recent global developments in more detail, and assesses the outlook for UK exports, which will be shaped, in part, by the strength and persistence of the global recovery.

Recent developments in global activity

As in the United Kingdom, there was a sharp contraction in GDP across the major advanced economies in Q1, reflecting falls in domestic demand (**Table 2.C**). But US domestic demand is estimated to have fallen less markedly in Q2, and euro-area indicators of consumption and investment, such as retail sales, private new car registrations and capital goods orders, were also consistent with an easing in the pace of contraction.

Despite this improvement in near-term prospects, there are a number of factors which may hinder recovery in these economies. Further rises in unemployment, which reached its highest rate for over 25 years in June in the United States, may suppress consumer spending. Credit conditions remain tight, and that could bear down on both consumption and investment. In the United States, total credit contracted by 0.1% in Q1 — the first such fall since the series began in 1952. And according to the *ECB Bank Lending Survey*, euro-area banks tightened both corporate and household credit conditions further in Q2.

Growth in some emerging and developing economies bounced back sharply in Q2. Four-quarter GDP growth in China is reported to have risen to 8% in Q2, from 6% in Q1. Growth also rebounded markedly in other Asia-Pacific economies. For



Sources: Bank of England, Thomson Datastream and Bank calculation

(a) Local currency deficits and surpluses have been converted into common currency (US dollar) terms using the quartery averages of the relevant bilateral exchange rates. (b) The 2005–2008 Q3 average is based on annual data for 2005, 2006, 2007 and data for

2008 H1. The 2008 Q4-2009 Q1 average is estimated based on data for 2008 H2

Table 2.D Export orders^(a)

	Averages	2008			2009		
	1998–2007	H1	H2	Q1	Q2	July	
Manufacturing							
BCC orders ^(b)	5	19	-12	-28	-8	n.a.	
CBI orders ^(c)	-27	-10	-36	-34	-45	n.a.	
Agents' scores ^(d)	0.8	2.7	1.1	-1.6	-2.0	n.a.	
CIPS/Markit orders ^(e)	50.3	49.2	41.8	39.9	47.8	48.5	
Services							
BCC orders ^(b)	7	8	-2	-10	-12	n.a.	

Sources: Bank of England, BCC, CBI and CIPS/Markit.

 (a) Dates refer to the periods in which the surveys were conducted.
 (b) Percentage balance of respondents reporting domestic orders to be 'up' relative to 'down' over the past three months.

 (c) Percentage balance of respondents reporting volume of orders to be 'above' relative to 'below' normal.
 (d) Volume of sales over past three months compared with same period a year earlier. End-quarter observation
 (e) A reading above 50 indicates increasing orders/new business this month relative to the situation one month ago. Quarterly data are averages of monthly indices.

Index: 2005 = 100 Index: 2005 = 100 60 125 Sterling goods export prices (right-hand scale) 120 70 Sterling ERI^(a) (left-hand scale, inverted) 115 80 110 105 90 100 100 95 110 90 1990 93 96 99 2002 05 08 (a) Monthly averages of daily data

Chart 2.13 Sterling goods export prices and the effective exchange rate index (ERI)

example, in Singapore, quarterly GDP rose by 6% in Q2, following a similar-sized fall in Q1.

World trade and global rebalancing

World trade in goods fell by over 10% in Q1. As discussed in the May Report,⁽¹⁾ those countries that specialise in the production of heavily traded manufactured goods experienced particularly sharp falls in their exports. Trade flows continued to fall in April and May, albeit at a more modest pace.

Lower trade flows have been associated with some narrowing of global current account imbalances. Many so-called 'surplus countries', which in the past have tended to export more than they import, have seen their current account surpluses shrink (Chart 2.12). Many 'deficit countries', which have tended to import more than they export, have seen their current account deficits narrow. For oil-importing countries, falls in oil prices between the middle of 2008 and the start of 2009 have also contributed to a narrowing in their deficits. But both the subsequent rise in oil prices and any rise in demand for imports in the deficit countries may lead to a re-emergence of those imbalances, posing risks to the global recovery in the medium term (Section 5).

UK exports

The sharp fall in world trade has contributed to a marked fall in UK exports: the 7% fall in 2009 Q1 was the sharpest quarterly fall in 30 years. And most surveys of export orders point to further weakness in Q2 (Table 2.D).

Looking ahead, the path of UK exports will depend on the timing and strength of the global recovery, and on exporters' reactions to changes in the exchange rate. Since mid-2007 sterling export prices have risen markedly, as the sterling exchange rate has fallen (Chart 2.13). That suggests that, in aggregate, exporters have allowed their margins to rise, rather than adjusting their foreign currency prices. That is consistent with reports from some contacts of the Bank's regional Agents.

The boost to exporters' profitability, however, should eventually increase the supply of UK exports. Over time, that should boost the United Kingdom's share of world exports.

(1) See the box on pages 22–23 of the May 2009 Report.

3 Output and supply

Output is estimated to have fallen further in 2009 Q2, although the pace of contraction has eased. Companies' demand for labour remained subdued. Weak growth in supply capacity is likely to have moderated the extent to which falls in demand have been reflected in an increased margin of spare capacity. But spare capacity, both within companies and in the labour market, has increased significantly, and is likely to depress inflation.



are at basic prices. 'Other' is calculated as a residual. The figures in parentheses show sha in the level of nominal value added in 2007. Shares may not sum to 100 due to rounding. The chart shows data consistent with the Q2 preliminary GDP release. Production data were (b) Includes agriculture, mining and quarrying, electricity, gas and water supply and construction

Chart 3.2 Survey indicators of aggregate output growth^(a)



Sources: BCC, CBI, CBI/PwC, CIPS/Markit and ONS.

(a) Three measures are produced by weighting together surveys from the BCC (manufacturing and services), the CBI (manufacturing, financial services, business/consumer services, distributive trades), and CIPS/Markit (manufacturing, services, construction) using nominal shares in value added. The BCC data are non seasonally adjusted. (b) The diamond for 2009 Q3 shows July data.

The degree of slack in the economy — the gap between output and supply capacity — is an important influence on pricing pressures. In recent quarters, output has contracted sharply (Section 3.1) and this has led to a decline in companies' demand for labour (Section 3.2). Although the recession and the financial crisis have probably eroded the growth in supply capacity (Section 3.3), a substantial degree of slack appears to have developed (Section 3.4).

3.1 Output

Output is estimated to have fallen by 0.8% in 2009 Q2 (Chart 3.1). That fall was in line with the MPC's expectation at the time of the May *Report*, and smaller than the 2.4% fall in 2009 Q1. But downward revisions to growth around the turn of the year indicated that the recession was deeper than previously thought. Output is now estimated to have fallen by 5.6% over the past year, the largest four-quarter fall since records began in 1956.

The level of output in both the manufacturing and service sectors remains much lower than a year earlier. And both sectors continued to contract in 2009 Q2 (Chart 3.1), although by less than in recent quarters. Within the service sector, the slowing pace of decline on the quarter was broadly based across private services.

Although a range of survey indicators also pointed to an easing in the rate of contraction in Q2, they differed markedly in the extent to which they had turned around. The CIPS/Markit output indices rose very sharply. But the CBI and BCC surveys pointed to only a modest easing in the rate of contraction in output (Chart 3.2). The further rise in the CIPS/Markit output indices for July suggests that the trough in output may be close.

The causes of the moderation in the rate of contraction of output in Q2 are key to assessing whether that easing will continue in the second half of 2009. The turnaround could in

		2008			2009	
	Q2	Q3	Q4	Q1	Q2	
GDP (per cent) ^(b)	-0.1	-0.7	-1.8	-2.4	-0.8	
Contribution of stockbuilding to GDP growth (percentage points)	-0.4	-0.6	-1.1	-0.1	n.a.	
Memo: Stockbuilding (f millions)	1779	-173	-3 699	-4148	na	

(a) Stockbuilding excludes the alignment adjustment(b) Chained-volume measure at market prices.

Chart 3.3 Indicators of consumer and business confidence



Sources: CBI, CIPS/Markit and research carried out by GR NOP on behalf of the European Commission.

(c) The question asks about optimism regarding the business situation compared with three months earlier.



Chart 3.4 Individuals working shorter hours for economic reasons^(a)

Source: Labour Force Survey.

(a) Respondents to the Labour Force Survey questionnaire who report that they are working fewer hours than usual are asked why and given a list of potential reasons. These data cover individuals who report that their reduced hours are due to 'economic or other' causes. Between 1987 and 1992 the LFS survey was annual. The annual observations correspond to the March-May quarter. Data are non seasonally adjusted. part reflect the inventory cycle. De-stocking significantly reduced output growth in the second half of 2008 (**Table 3.A**). But the pace of de-stocking may have eased and so stocks may not have detracted from growth in Q2. As the inventory adjustment runs its course, there is likely to be some temporary boost to growth. It is unlikely, however, that the stock cycle is the only factor behind the moderation in the pace of contraction to date. Inventories are important in the output of the manufacturing sector, but not in the service sector, and so reduced de-stocking is unlikely to explain the moderation in the rate of decline in service sector output.

The easing in the rate of contraction in output is also likely to reflect a moderation in the pace of contraction of final demand (Section 2). This is likely to be in part related to the significant policy stimulus and the past depreciation of sterling — both of which should continue to underpin activity in 2009 H2. In addition, part of the very sharp falls in output around the turn of the year probably reflected some households and companies delaying spending due to uncertainty about the economic outlook. But the perceived risk of an even more severe and prolonged global recession appears to have receded in recent months. Consistent with that, households' and companies' confidence has picked up from the very low levels seen around the turn of the year **(Chart 3.3)**.

3.2 Labour demand

The labour market has weakened further since the May *Report*. Employment has fallen and unemployment has risen. But some indicators suggest that the pace of deterioration has eased. This section considers recent developments and the near-term outlook for labour demand.

Employment has fallen as output has weakened. According to the LFS measure, the number of people employed fell by 269,000 in the three months to May, leaving employment 1.8% lower than a year earlier. Total hours worked fell by 2.7% in the three months to May compared with a year earlier. The greater fall in hours worked reflects, in part, some companies' increased use of flexible working practices and temporary shutdowns as demand for their output has fallen. That is consistent with the increase in the number of people reporting that they are working shorter hours for economic reasons (Chart 3.4). And it also corroborates reports from the Bank's regional Agents and other organisations. For example, a recent survey by the CBI/Harvey Nash indicated that nearly two thirds of employers have made, or are considering making, significant changes to working patterns and the way that their workforce is organised.

The fall in total hours worked, while substantial, is considerably smaller than the decline in output. As a result, labour productivity per hour has fallen very sharply

⁽a) Difference from average since July 1996. The question asks about the expected level of activity in twelve months' time compared with now.

⁽b) The balance is calculated as a simple average of five component balances covering: financial situation and general economic situation over past twelve months, financial situation and general economic situation over next twelve months and major purchases at present.



(a) Recessions are defined as two consecutive quarters of falling output (at constant market prices) estimated using the latest data. The recessions are assumed to end once output began to rise.

b) Chained-volume measure, at market prices.

(c) calculated as CDP at basic prices divided by LFS total hours. The diamond is an estimate for 2009 Q2 based on the preliminary estimate of GDP and total hours in the three months to May.

Table 3.B Surveys of employment intentions^(a)

	Averages		2008		2009	
	since 1999	Q2	Q3	Q4	Q1	Q2
BCC(b)	15	6	0	-27	-16	-10
CBI(b)	2	-2	-17	-38	-43	-20
Agents ^(c)	0.4	-0.6	-1.5	-2.7	-3.3	-2.7
Manpower ^(b)	11	5	-1	-3	-6	-6

Sources: Bank of England, BCC, CBI, CBI/PwC, Manpower and ONS

(a) Measures for the Bank's regional Agents (manufacturing and services), the BCC (manufacturing and services) and the CBI (manufacturing, financial services, business/consumer services) are weighted using employment shares from Workforce Jobs. Manpower data cover the whole economy.

(b) Net percentage balance of companies expecting their workforce to increase over the next three months.
(c) End-quarter observation. The scores refer to companies' employment intentions over the next six months.

Chart 3.6 Unemployment rate^(a)



(a) Percentage of the economically active population. Rolling three-month measure.

(Chart 3.5). That is in marked contrast to the 1990s recession, when total hours fell more steeply than output, and labour productivity increased. It is perhaps surprising, given the sharp fall in labour productivity, that companies have not reduced total hours worked even further, perhaps by laying off more staff. The box on page 29 discusses whether the falls in employment to date have been limited, not only by the adoption of flexible working, but also by a moderation in pay growth. It concludes that both these factors have played a role.

It is likely that employment will continue to fall for some time as companies continue to adjust following the sharp falls in output around the turn of the year. Surveys of employment intentions suggest that companies still expect to reduce the size of their workforces in coming months, but to a somewhat smaller degree (**Table 3.B**). Continued falls in employment suggest further rises in unemployment. Unemployment has already increased substantially. The LFS measure rose by 281,000 in the three months to May, taking the unemployment rate to 7.6% (**Chart 3.6**). The more timely claimant count measure rose by 167,000 in the three months to June, a smaller rise than in the previous three months. So, consistent with employment intentions surveys, the claimant count measure suggests that the pace of increase in unemployment may be easing.

3.3 Supply

Developments in potential supply will determine the extent to which weak output growth leads to an increase in spare capacity in the economy and therefore puts downward pressure on inflation. A recent OECD study⁽¹⁾ suggests that financial crises tend to have negative and permanent effects on the level of potential output. This subsection discusses factors that may bear down on potential supply growth over the forecast period.

Supply effects on physical and working capital

Supply may be constrained by tight credit conditions, and that could prevent some companies from meeting demand for their products. For example, many companies rely on credit in order to purchase inputs and produce output. Aggregate survey evidence suggests that the proportion of companies reporting credit as a constraint on output fell back in 2009 Q2, although it remains at a high level (Chart 3.7).

Supply capacity may also be reduced by companies going out of business and a reduction in the number of new companies being formed. Weak demand and tight credit conditions have led to increased business failures. In 2009 Q1, almost 5,000 businesses entered liquidation in England and Wales,

Chart 3.5 Labour productivity and GDP

Furceri, D and Mourougane, A (2009), 'The effect of financial crises on potential output', OECD Economics Department Working Paper No. 699.

Employment and output in the current recession

The effect of the recession on the labour market is likely to be a key determinant of the timing and strength of the recovery. Output has fallen markedly over the past year and, while employment has declined, it is perhaps surprising that the fall has not been larger. At similar points in the 1980s and 1990s recessions, employment had fallen by more than in the current episode, despite smaller falls in output (Table 1). In those earlier episodes, employment continued to fall for some time after the recessions ended. It is possible that employment is taking longer to respond to the weakness in output in the current recession. But this box considers whether the adoption of flexible working practices and a moderation in pay growth have helped to limit the fall in employment.

Table 1 Output, employment and average hours in the 1980s, 1990s and current recessions(a)

Percentage changes five quarters after start of recession

	1980s	1990s	Current ^(b)
GDP(c)	-4.7	-2.5	-5.7
Employment ^(d)	-2.4	-3.4	-1.7
Average hours ^(e)	-3.0	-1.9	-1.4

Sources: ONS (including the Labour Force Survey) and Bank calculations

(a) Recessions are defined as two consecutive quarters of falling output (at constant market prices) estimated (b) Employment and average hours data for 2009 Q2 are based on the three months to May.

Chained-volume measure at market prices

(c) Chained-volume measure at market prices.
(d) LFS employment.
(e) Constructed as LFS total hours divided by LFS employment.

Why is adjustment necessary?

Falls in demand will initially reduce companies' sales and profits. If that weakness is expected to persist, companies will want to scale back production in order to reduce costs and restore profitability. For most companies, labour accounts for a large share of total costs, and so it is likely that any squeeze on costs will be borne, in large part, by the workforce.

Companies can reduce labour costs by reducing the average hours that their employees work and by reducing hourly pay. But there is likely to be a limit on the cost reductions that can be achieved using these strategies. For example, although companies can reduce bonus or overtime payments, other elements of the wage bill may be less flexible. In severe slowdowns, a greater proportion of the reduction in costs will need to be achieved through lower employment. But redundancies themselves often involve substantial financial costs, and there is a risk that skilled staff will be difficult to replace when demand recovers. So laying off staff may be a last resort for many companies.

Evidence

So far the increased use of flexible working practices together with pay moderation seems to have helped to limit the fall in employment. Since the recession began, output is estimated to have fallen by 5.7%. Over the same period average hours have fallen by 1.4% (Table 1) and this will have been associated with a significant reduction in costs. Some of the decline in average hours will reflect short-time working arrangements and temporary plant closures (Section 3.2). Companies have also reduced costs by bearing down on hourly pay. In 2009 Q1, real compensation per hour — a measure of companies' labour costs — was 1.6% lower than a year earlier (Chart A). Some of that weakness reflected financial sector bonuses. But growth has also weakened for other components of pay, for example, there has been a sharp increase in the number of pay freezes (Section 4).

The falls in average hours are somewhat smaller than those in the 1980s and 1990s recessions. So weakness in pay may have been a more important factor moderating the fall in employment. That appears to be particularly the case relative to the 1990s recession when real pay growth picked up very sharply as output fell (Chart A).





Sources: ONS (including the Labour Force Survey) and Bank calculations.

(a) Recessions are defined as two consecutive quarters of falling output (at constant market prices) estimated using the latest data. The recessions are assumed to end once output began to rise.

(b) Calculated using the National Accounts measure of compensation of employees. Converted into a real per hour measure using the GVA deflator and LFS total hours worked. (c) Chained-volume measure at market prices

It is possible that pay moderation and increased use of flexible working have only delayed, rather than limited, the adjustment in employment. For example, some companies may have introduced shorter working hours and cut pay as temporary measures in the hope that demand conditions improve. That suggests that if demand does not recover sufficiently, it will become more difficult for them to maintain employment.





Sources: CBI, ONS and Bank calculations.

(a) This measure is produced by weighting together balances for the manufacturing sector and the consumer/business service sector using nominal shares in value added. Manufacturing companies are asked: "What factors are likely to limit output over the next three months?". Service sector companies are asked: "What factors are likely to limit your ability to increase the level of business over the next twelve months?".





source: Companies House.

(a) Data are for Great Britain and are non seasonally adjusted

compared with an average quarterly figure of just over 3,000 in 2007. Business failures tend to lag slowdowns in activity, so it is likely that the number of companies entering liquidation will rise further in the coming quarters. When companies go out of business, it is likely that some of their capital will be scrapped, or will be re-employed less productively, reducing the potential supply of the economy. Tight credit conditions and weak demand prospects will also tend to discourage the formation of new companies. On average in 2009 H1, incorporations were 12% lower than in 2008 H1, although the rate of decline has eased in recent months (Chart 3.8). Company formation was also weak in the early 1990s recession.

Growth in companies' supply capacity may also be depressed by lower investment in physical capital. Companies have reduced investment spending as demand has slowed and uncertainty about the outlook has increased (Section 2). Although business investment flows are small relative to the size of the non-residential capital stock, following previous recessions investment has been sufficiently weak to lead to materially lower capital stock growth.

Labour supply

Weak labour market conditions could also bear down on the United Kingdom's supply capacity. Potential labour supply depends on the size of the population and individuals' willingness to participate in the labour market. It also depends on whether the skills of unemployed individuals are well matched to those sought by employers.

Migration has boosted UK population growth, and therefore potential supply, in recent years. The recession might encourage migrants already here to leave and discourage potential migrants from coming to the United Kingdom. But a large number of recent migrants originated from Central and Eastern Europe, where growth prospects have also weakened. Perhaps reflecting that, there is little evidence, to date, of significant net outflows of migrants.

If a significant number of people withdraw from the labour market that will reduce potential supply growth. The participation rate has fallen back only slightly in the current recession, compared with the 1990s recession when it fell back sharply. One possibility is that falls in the value of defined contribution pensions, and financial wealth more generally, have encouraged some individuals to supply more labour, for example by delaying retirement.

The modest fall in the participation rate and associated increase in the economic inactivity rate since the recession began in part reflects an increase in student numbers. That could reflect some individuals choosing to undertake further education in response to the weakness in the labour market. In due course most of these people are likely to enter or return

Chart 3.9 Measures of capacity utilisation and four-quarter output growth



 (a) Three measures are produced by weighting together surveys from the Bank's regional Agents (manufacturing and services), the BCC (manufacturing and services) and the CBI (manufacturing, financial services, business/consumer services, distributive trades) using nominal shares in value added. The BCC data are non seasonally adjusted.
 (b) Chained-volume measure at market prices.

Chart 3.10 Measures of labour market tightness



Sources: Bank of England, BCC, CBI, CBI/PwC, KPMG/REC and ONS (including the Labour Force Survey).

- (a) Four measures are produced from the Bank's regional Agents, the BCC, the CBI and KPMG/REC. The Agents' (manufacturing and services), BCC (manufacturing and services) and CBI (manufacturing, financial services, business/consumer services) balances are weighted together using Workforce Jobs employment shares. The BCC data are non seasonally adjusted.
- Distribution of the series of the series

to the labour market. It remains possible, however, that a prolonged slowdown in the economy could lead to a sustained increase in economic inactivity.

In past recessions, significant increases in unemployment are likely to have led to slower growth in potential supply. That is because prolonged periods of unemployment can prevent those affected from retaining or acquiring the skills sought by employers, making it more difficult for them to find work. In addition, individuals who are unemployed for significant periods may perceive their chances of finding work to be low and, as such, become disconnected from the labour market. Whether these effects are significant in the aftermath of the current recession will depend, in part, on the speed and robustness of the recovery. If few individuals suffer prolonged spells of unemployment, the effects are likely to be small.

3.4 Measures of spare capacity

As discussed in Sections 3.1 and 3.3, output has fallen sharply, but, in recent quarters, growth in supply capacity may also have weakened. This section examines the extent to which weak output has led to a rise in spare capacity, and therefore a reduction in inflationary pressure.

As demand for their products falls, companies will adjust the intensity with which they work their employees and capital. This is captured by measures of capacity utilisation. Survey evidence suggests that capacity utilisation is well below normal at present. But the fall is perhaps smaller than might have been expected given the extent to which output has fallen (Chart 3.9).

Although companies may operate below capacity for some time, faced with a prolonged period of weak demand they are also likely to reduce the size of their workforce. The resulting increase in unemployment, if not accompanied by weaker potential labour supply, will tend to put downward pressure on wages. Unemployment has risen substantially over the past year (Section 3.2). A range of survey indicators suggest that, as a result, the labour market has loosened significantly, and that is corroborated by the ratio of vacancies to unemployment, a measure of labour market slack based on official data (Chart 3.10).

4 Costs and prices

CPI inflation fell to 1.8% in June. Inflation is likely to be unusually volatile over the second half of 2009, declining further over Q3, as past increases in domestic gas and electricity prices drop out of the twelve-month comparison, before rebounding to around the target in the following months. Past falls in the sterling effective exchange rate have increased businesses' import costs and put upward pressure on consumer prices. But the weakness of domestic demand has pushed down wages and prices. Measures of households' inflation expectations remained stable at levels that appear broadly consistent with inflation at target.



 (a) At current market prices.
 (b) Based on RPI inflation from 1960 to 1975, RPIX inflation from 1976 to 1988, and CPI inflation from 1989 onwards



Chart 4.2 Contributions to CPI inflation(a)

(a) Contributions to annual (non seasonally adjusted) CPI inflation (b) Includes a rounding residual

CPI inflation — the measure targeted by the MPC — fell to slightly below the 2% target in June and is likely to decline further over Q3 (Section 4.1). Three key influences continue to shape the near-term outlook for inflation: the downward pressure from the weakness of nominal demand (Chart 4.1) and the associated margin of spare capacity; movements in energy prices (Section 4.2); and the significant depreciation in the sterling exchange rate between mid-2007 and the end of 2008 (Section 4.3). The impact of these factors on companies' labour costs and pricing intentions is discussed in Section 4.4. Developments in inflation expectations are discussed in Section 4.5.

4.1 CPI inflation

CPI inflation declined to 1.8% in June, from 2.9% in March. That fall was mainly accounted for by lower food and gas and electricity price inflation (Chart 4.2), as earlier food and energy price increases dropped out of the twelve-month comparison and gas and electricity suppliers cut their prices.

The monthly profile of CPI inflation is likely to be unusually volatile over the second half of 2009. Domestic gas and electricity prices are likely to pull CPI inflation down further over the next few months. That is largely because past increases in utility bills will continue to drop out of the twelve-month comparison. If gas and electricity prices were to remain at their June levels, these 'base effects' would be sufficient to reduce annual CPI inflation by around 0.8 percentage points by September. Large base effects from petrol prices will then push up inflation in Q4. And the reversal of the VAT cut will also increase inflation around the turn of the year, although the size and precise timing of that effect is uncertain.

4.2 Energy prices

Dollar oil prices have risen sharply since their trough in December 2008. In the fifteen working days to 5 August, the price of Brent crude was \$69 per barrel, around 35% higher than at the time of the May Report. And the futures curve was, on average, around 19% higher over the next three years (Chart 4.3). Oil prices remain well below the levels reached last year, however.

The rise in oil prices in 2009 could reflect developments in oil supply and demand. OPEC made a large cut in its production of crude oil in January 2009. More recently, there have been some signs that global activity is stabilising (Section 2). And that turnaround has been most marked in some emerging market economies. Perhaps reflecting that, the US Energy Information Administration (EIA) reported that there had been some pickup in non-OECD demand for oil. But despite these developments, the EIA has revised down its estimates of overall oil demand and supply in 2009 by similar amounts since January, which suggests that other factors have played a role in the rise in oil prices.

One possibility is that the downward pressure on oil prices has lessened as the perceived risk of a very deep and prolonged global recession has receded. And the upward pressure from some of the structural factors that played a role in the run-up in oil prices between 2003 and 2007, such as strong growth in oil demand from emerging market economies and sluggish growth in oil supply, may have begun to dominate.⁽¹⁾ Options prices suggest that the distribution of market beliefs about oil price outturns has shifted upwards during 2009, and that the outlook for oil prices, even three months ahead, remains uncertain (Chart 4.4).

Oil prices have a direct effect on inflation as petrol prices tend to move with sterling oil prices, after a short lag. Some of the 35% rise in dollar oil prices since the May Report has been offset by a rise in the sterling-dollar exchange rate, but sterling oil prices are still up by 21%. As that feeds through, the negative contribution from petrol prices to CPI inflation (Chart 4.2) is likely to diminish during Q3.

Domestic gas and electricity prices are likely to pull down inflation in the near term due to base effects (Section 4.1). There is also a possibility of price cuts by gas and electricity suppliers in the coming months, but the size and timing of price changes is highly uncertain. The MPC's August projection embodies an assumption that utility bills will fall by around 5% in Q3, compared to the assumption of a price cut of around 15% at the time of the May Report (see the box on page 42).





Sour es: Bloomberg and Tho son Datastr





Sources: New York Mercantile Exchange and Bank calculations

(a) Data refer to the price of West Texas Intermediate crude oil. These calculations use options data and assume that investors are risk-neutral. For more details, see Clews, R, Panigirtzoglou, N and Proudman, J (2000), 'Recent developments in extracting information from options markets', Bank of England Quarterly Bulletin, February, pages 50-60.

⁽¹⁾ See the box on page 32 of the August 2008 Report for a discussion of trends in oil demand and oil supply over that period.

⁽a) Futures prices for May 2009 and August 2009 are averages during the fifteen working days to (d) Futures prices for Frag 2005 and rag at 1 = 1 = 2
6 May and 5 August respectively.
(b) Brent forward price for delivery in 10 to 21 days' time.



Chart 4.5 Import prices excluding fuels and the sterling ERI

Sources: ONS and Bank calculations.

 (a) Quarterly averages of daily data. Data are shown to 2009 Q2.
 (b) Excluding the estimated impact of missing trader intra-community fraud. Data are available to 2009 Q1.

Chart 4.6 Consumer prices and nominal effective exchange rates in selected countries



Sources: IMF, ONS and Thomson Datastream.

(a) CPI data are quarterly and show CPI inflation in 2009 Q2.





(a) PNFCs' gross operating surplus (excluding the alignment adjustment) minus the gross trading profits of Continental shelf companies divided by nominal gross value added at factor cost.

4.3 The exchange rate and inflation

The sterling effective exchange rate depreciated between mid-2007 and the end of 2008 and, although it has appreciated since then, remains around 20% lower than its mid-2007 level. That has placed upward pressure on inflation through its impact on businesses' costs. For example, import prices excluding fuels, which tend to move closely with the exchange rate, have risen by around 16% since mid-2007 (Chart 4.5). In the medium to long run, inflation is determined by monetary policy. But movements in relative prices, such as those caused by a large change in the exchange rate, can affect headline inflation over shorter horizons, if other prices take time to adjust.

Higher import costs are likely to have been an important influence on recent developments in prices and wages. Following a rise in costs, companies may be willing to accept lower profits for a time, but will eventually need to reverse that profit squeeze through some combination of lower nominal wage growth and higher final prices. It is likely that some of the necessary adjustment following the depreciation of sterling has occurred through higher consumer prices. Perhaps reflecting that, consumer price inflation in the United Kingdom is currently above that in many major developed economies which have not experienced significant recent exchange rate depreciations (**Chart 4.6**). High import costs could also be one factor explaining why wages have weakened (Section 4.4).

The extent to which higher import costs will continue to push inflation up will depend in part on whether companies have now largely adjusted to the higher level of imported costs, or whether those higher costs are still squeezing profits. At an economy wide level, profits do not appear particularly weak for example, the non-oil non-financial corporate profit share has picked up since 2008 Q3, although it is a little below its recent average (Chart 4.7). And there may be some more adjustment to come if these aggregate data mask sectoral differences. In particular, increased profitability in the export sector, where margins appear to have been boosted by the past depreciation (Section 2), may be offsetting weaker profits for companies that supply the domestic market. So there could be some more upward pressure to come on consumer prices, if those domestic suppliers still need to rebuild their profit margins.

There remains uncertainty as to whether further adjustment to higher import costs is required, and if so, whether that would primarily occur through higher consumer prices or lower wages (Section 5).

Table 4.A Private sector earnings^(a)

Percentage changes on a year earlier

	Averages	2009		2009	
	since 2000	Q1	Apr.	May	June
(1) AEI regular pay	4.0	2.9	2.6	2.4	n.a.
(2) Pay settlements ^(b)	3.3	3.4	3.1	3.1	3.0
(1)–(2) Regular pay drift ^(c)	0.6	-0.5	-0.5	-0.7	n.a.
(3) Total AEI	3.8	-1.1	0.4	1.9	n.a.
(3)–(1) Bonus contribution ^(c)	-0.1	-4.0	-2.2	-0.5	n.a.
Memo item: AWE ^(d)	3.9	-3.6	-2.8	-0.6	n.a.

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

Three-month moving average measures unless otherwise stated

Average over the past twelve months.

(c) Percentage points.
 (d) AWE data excluding arrears. Average is since March 2001.

Chart 4.8 Pay drift and labour productivity^(a)



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

(a) Whole-economy measures.(b) Calculated as the difference between annual percentage changes in the three-month moving average measures of the whole-economy average earnings index and whole-economy pay settlements

Chart 4.9 Distribution of private sector wage settlements in 2009 to date^(a)



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

(a) Based on settlements effective between 1 January and 5 August 2009

(b) Includes agriculture, manufacturing, mining and quarrying, and utilities.
 (c) A settlement that is a round number is classified within the bucket where that round number

is the upper bound. So a 2% settlement is included within the 1% to 2% bucket

4.4 Labour costs and indicators of companies' pricing

Nominal wage growth weakened in 2009 H1. That is likely to, in part, reflect companies adjusting to the rise in import costs. But at the same time as companies' import costs have increased, demand for their output has fallen sharply (Section 2). That is likely to have placed additional downward pressure on labour costs, and also pushed down their output prices.

Labour costs

Pay growth has weakened markedly in 2009 H1. In the private sector, the average earnings index (AEI) rose by 1.9% in the three months to May compared with a year earlier, much weaker than the average growth rate since 2000 of 3.8% (Table 4.A).

Some of that weakness in earnings growth is accounted for by lower bonuses and pay drift, which includes overtime payments and commission payments. In part, that is likely to reflect the weakness of demand; these elements of pay tend to move closely with real activity and productivity (Chart 4.8).

Pay settlements have also declined in recent months. During the first six months of the year, when around three quarters of private sector settlements take place, settlements averaged 2.2%, much lower than the average of 3.6% in 2008. If, as seems likely, pay settlements remain subdued over the coming months, then the twelve-month mean settlement (Table 4.A) will continue to fall, and that will push down annual AEI growth.

Low pay settlements, including pay freezes, have been particularly prevalent in the production sector (Chart 4.9), where both weak demand and high non-wage costs are likely to have put substantial downward pressure on pay. Manufacturing output has fallen particularly sharply, declining by 12% in the twelve months to June. And manufacturing input prices rose by around 20% in 2008, the largest annual increase since 1976. Pay settlements have also been weak in the service sector, but there have been fewer pay freezes so far (Chart 4.9).

Companies may have been able to push down wage costs because employees have been less resistant to lower pay growth. As demand fell and job prospects worsened in this recession, employees may have accepted lower pay in order to preserve their job. The impact of wage moderation on employment in this recession is discussed in more detail in the box on page 29. Weak demand, coupled with wage flexibility, is likely to continue to bear down on earnings growth in the near term.

Chart 4.10 Output prices^(a)



(a) Data are non seasonally adjusted. The Services Producer Price Index is an experimental index, it is not classified as a National Statistic. (b) Excludes excise duties.





Sources: BCC, ONS and Bank calculations

(a) Manufacturing and services balances, weighted using nominal shares in value added The data are non seasonally adjusted.

(b) Net percentage balance of companies expecting to increase prices over the next three months.

Table 4.B	Survey indicators of companies	' expected output
prices ^(a)		

	Averages		2009		
	since 1997 ^(b)	2008	Q1	Q2	
BCC manufacturing	14	32	-7	-6	
CBI manufacturing	-2	14	-20	-17	
BCC services	24	32	3	1	
CBI business and professional services	-3	-4	-35	-28	

Sources: BCC and CBI.

(b) The averages for the BCC and CBI business and professional services surveys are since the series began in 1997 Q2 and 1998 Q4 respectively.

Indicators of companies' pricing

There are signs that inflationary pressures at the start of the supply chain have eased. Annual output price inflation in the manufacturing sector has fallen back sharply during 2009, reaching -2% in June (Chart 4.10). Part of that decline reflects the impact of previous falls in oil prices on petrol prices, but annual output price inflation for other goods has also slowed. In the service sector, producer price inflation has also declined markedly (Chart 4.10).

That weakening in producer price inflation is likely, in part, to reflect lower demand (Section 2) and the associated rise in the margin of spare capacity (Section 3). Businesses tend to respond to such developments by cutting prices to stimulate demand (Chart 4.11). Weak demand is likely to continue to exert downward pressure on prices; most surveys of corporate pricing intentions in the service and manufacturing sectors point to subdued output price inflation in the near term (Table 4.B).

Although the sharp slowdown in nominal demand (Chart 4.1) and the associated margin of spare capacity is likely to put downward pressure on inflation, the overall impact is uncertain. Past slowdowns have been associated with falls in inflation. But the sensitivity of inflation to slack in the economy depends on the monetary regime in place and how this affects inflation expectations. Since the inflation-targeting period began, fluctuations in spare capacity have been relatively muted, so it is difficult to be confident about how much inflation will be affected by the substantial margin of spare capacity in this recession (Section 5).

4.5 Inflation expectations

Measures of households' inflation expectations over the next year have stabilised in recent months, having fallen sharply from elevated levels in the latter part of 2008 (Chart 4.12). That decline is likely to have reflected a combination of factors. In part, it may have reflected perceptions of current inflation, since CPI inflation fell back over that period. But it may also have reflected the marked decline in economic activity — around half of the respondents to the February Bank/NOP survey cited the strength of the economy as a very important factor informing their inflation expectations.⁽¹⁾

Households' expectations of inflation beyond a year ahead picked up slightly in the May Bank/NOP survey. But this survey has only included questions on medium-term inflation expectations since February 2009. Surveys with a longer back run, such as Barclays BASIX and YouGov/Citigroup, also suggest that medium-term expectations have ticked up.

⁽a) Net percentage balance of companies expecting to increase prices over the next three months. BCC data are non seasonally adjusted.

⁽¹⁾ For discussion of how household expectations are formed, see Barnett, A, Bell, V and Oomen, O (2009), 'Public attitudes to inflation and monetary policy', Bank of England Quarterly Bulletin, Vol. 49, No. 2, pages 101–09.



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

(a) Survey-based measures (apart from GFK NOP) have been scaled to have the same mean as CPI inflation over a comparable time period.

(b) The questions ask about expected changes in prices over the next twelve months, but do not reference a specific price index. All measures are based on the median estimated price change, except GfK NOP which captures the weighted net balance expecting prices to increase.

Chart 4.13 Measures of households' inflation expectations beyond a year ahead^(a)



Sources: Bank of England, Barclays Capital, Citigroup, GfK NOP and YouGov

(a) The questions do not reference a specific price index. All measures are based on the median estimated price change.





Sources: Bank of England and GfK NOP.

(a) Data are from May 2009 Bank/NOP survey.

Despite this, expectations remain a little below their historical averages (Chart 4.13). At present, there are no direct measures of companies' medium-term expectations for aggregate inflation. Professional economists expect CPI inflation to be close to the target in two years' time — on average, the economists surveyed by the Bank in July expected CPI inflation to be 1.8% in 2011 Q3 (see the box on page 50).

Although headline measures of inflation expectations have been stable recently, at levels that appear broadly consistent with inflation at target, important risks remain (Section 5). On the one hand, if the outlook for demand worsens, that could cause companies and households to expect persistently low inflation, and subsequently to build that into wages and prices. On the other hand, there is a risk that the past depreciation of sterling, combined with the substantial policy stimulus, causes inflation expectations to rise. These opposing forces may in part explain the wide range of households' views about the inflation outlook apparent in the latest Bank/NOP survey (Chart 4.14). The MPC will continue to monitor measures of inflation expectations closely.

5 Prospects for inflation

Output fell further in the second quarter of 2009. Money growth and nominal GDP have remained weak. But the pace of decline in GDP moderated, and business surveys suggest that the trough in output is near. A number of factors should support a recovery, including the boost to growth in the near term as the inventory adjustment runs its course, and, throughout the forecast period, the policy stimulus and past falls in the exchange rate. The strength of the recovery in nominal spending growth in the medium term is highly uncertain, however, given the adjustments in financial and non-financial sector balance sheets that need to take place. CPI inflation is likely to drop further below target in the coming months. Further out, under the assumptions that Bank Rate moves in line with market rates and the stock of assets purchased through the issuance of central bank reserves reaches £175 billion, downward pressure from the margin of spare capacity means that inflation is more likely to be below target in the medium term than above. But there are significant risks to the inflation outlook in each direction.





The fan chart depicts the probability of various outcomes for GDP growth. It has been conditioned on the assumption that the stock of purchased assets financed by the issuance of central bank reserves reaches £175 billion and remains there throughout the forecast period. To the left of the first vertical dashed line, the distribution reflects the likelihood of revisions to the data over the past; to the right, it reflects uncertainty over the evolution of 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 the mature estimate of GDP growth would lie within the darkest central band on only 10 of those occasions. The fan chart is constructed so that outturns are also expected to lie within each pair of the lighter green areas on 10 occasions. In any particular quarter of the forecast period, GDP is therefore expected to lie somewhere within the in on 90 out of 100 occasions. The bank widen as the time horizon is extended, indicating the increasing uncertainty about outcomes. See the box on page 39 of the November 2007 *Inflation Report* for a fuller description of the fan chart and what it represents. The second dashed line is drawn at the two-year point of the projection.

5.1 The projections for demand and inflation

The UK economy is experiencing a deep recession, with real and nominal spending falling at record rates. Money growth has remained weak despite the Bank's asset purchase programme (Section 1). The task for monetary policy is to return nominal spending growth to a rate consistent with inflation at target.

Chart 5.1 shows the outlook for real GDP growth, on the assumption that Bank Rate follows a path implied by market interest rates. **Chart 5.2** represents a cross-section of that fan chart in 2010 Q3. All the charts describing the MPC's latest projections shown in this section are conditioned on the assumption that the stock of purchased assets financed by the issuance of central bank reserves reaches £175 billion in 2009 Q4 and then remains at that level throughout the forecast period.

A number of factors are likely to support a recovery in output growth. In the near term, growth should be boosted by a turnaround in the stock cycle. The significant policy stimulus should support domestic demand growth throughout the forecast period. And the past depreciation of sterling will continue to encourage both domestic and overseas spending to switch towards UK-produced goods and services.

There are also factors that may hinder a recovery in spending in the medium term, however. Credit conditions are likely to remain tight as banks continue to restructure their balance sheets. High levels of public and private debt and concerns

Chart 5.2 Projected probabilities of GDP growth outturns in 2010 Q3 (central 90% of the distribution)^(a)



(a) Chart 5.2 represents a cross-section of the GDP fan chart in 2010 Q3 for the market interest rate projection. It has been conditioned on the assumption that the stock of purchased assets financed by the issuance of central bank reserves reaches £175 billion and remains there throughout the forecast period. 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 the mature estimate of GDP growth in 2010 Q3 would lie somewhere within the range covered by the histogram on 90 occasions. GDP growth would lie outside the range covered by the histogram on 10 out of 100 occasions.
(b) Average probability within each band; the figures on the y-axis indicate the probability of inflation being within ±0.05 percentage points of ang given inflation rate, specified to one decimal place. The probability attached to inflation being between any two rates is given by the totag rate of the shaded bars between those rates. As the heinstor fisc of others of identical volumed

the total area of the shaded bars between those rates. As the heights of identically coloured bars on either side of the central projection are the same, the ratio of the probability contained in the bars below the central projection, to the probability in the bars above it, is given by the ratio of the width of those bars.

Chart 5.3 GDP projection based on constant nominal interest rates at 0.5% and £175 billion asset purchases



about job security may lead households to save more, although the low level of Bank Rate should moderate this. And the recovery in global activity remains vulnerable to further shocks, particularly if the imbalances which contributed to the financial crisis are not rectified. The Committee continues to judge that the stimulus should lead to a slow recovery in economic activity, but the timing and strength of that recovery remains highly uncertain. The projected distribution for GDP growth is somewhat stronger than in the May Report, reflecting the larger scale of asset purchases. The path for Bank Rate underlying the MPC's market rate projections incorporates an increase of nearly 4 percentage points over the next three years. But a box on page 41 shows alternative measures of interest rate expectations that suggest a somewhat smaller rise. Chart 5.3 shows the GDP projection on the alternative assumption that Bank Rate is held constant at 0.5%. The uncertainties around the GDP outlook are discussed in more detail below.

Chart 5.4 shows the Committee's best collective judgement about the outlook for CPI inflation, on the assumption that Bank Rate follows a path implied by market rates. The monthly profile of inflation is likely to be volatile over the second half of 2009. Inflation is likely to fall further in the coming months, as past increases in utility bills drop out of the twelve-month comparison. It is more likely than not that inflation will temporarily fall below 1% in the autumn, requiring an open letter from the Governor to the Chancellor. But inflation may then rise again over the following months, in part due to base effects from movements in petrol prices a year earlier, and also as the VAT cut is reversed, although the size and precise timing of the latter effect on prices is uncertain. The near-term outlook for inflation is somewhat higher than anticipated at the time of the May Report (Chart 5.5), in part reflecting higher petrol prices, as well as smaller falls in domestic utility bills than previously expected (see the box on page 42).

There are a number of uncertainties surrounding the outlook for inflation further out, and there is a range of views among Committee members on their relative importance. On the one hand, it is possible that the past depreciation might push up further on inflation, and that there may also be upward pressure from rising global energy and commodity prices if world growth continues to strengthen. On the other hand, money and nominal spending growth may remain weak, putting greater downward pressure on inflation. And it is difficult to predict with any precision the impact of the asset purchase programme on both nominal spending and inflation. Finally, the path of inflation over the forecast period will depend crucially on the extent to which inflation expectations remain anchored at levels consistent with inflation at target.

Overall, the Committee judges that, conditioned on the market path for interest rates, downward pressure from the



Chart 5.4 CPI inflation projection based on market interest rate expectations and £175 billion asset purchases





Charts 5.4 and 5.5 The fan charts depict the probability of various outcomes for CPI inflation in the future. Charts 5.4 and 5.5 have been conditioned on the assumptions that the stock of purchased assets financed by the issuance of central bank reserves reach £175 billion and £125 billion respectively, and remain there throughout the forecast period. If economic circumstances identical to today's were to prevail on 100 occasions, the MPC's best collective judgement is that inflation in any particular quarter would lie within the darkst 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. In any particular quarter would lie within the farest 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 forecast period, inflation is therefore expected to lie somewhere within the fans on 90 out of 100 occasions. The bands widen as the time horizon is extended, indicating the increasing uncertainty about outcomes. See the box on pages 48–49 of the May 2002 *Inflation Report* for a fuller description of the fan chart and what it represents. The dashed lines are drawn at the respective two-year points.

Chart 5.6 CPI inflation projection based on constant nominal interest rates at 0.5% and £175 billion asset purchases



margin of spare capacity means that inflation is more likely to be below target in the medium term than above. The projected distribution for inflation in the medium term is broadly similar to that in May: the upward effect from the expanded scale of asset purchases is offset by a greater margin of spare capacity.⁽¹⁾ **Chart 5.6** shows the inflation projection under constant interest rates for the next two years. On that assumption, the risks of inflation being above or below the 2% target at the two-year horizon are broadly balanced, albeit that the path of inflation is rising.

5.2 Key uncertainties

By how much will reduced credit supply hinder the recovery?

The outlook for credit supply is one of the key uncertainties around the MPC's projections for nominal spending. Banks need to restructure their balance sheets in order to improve their capital and funding positions. That restructuring could take place through further capital raising, which might limit its implications for the supply of credit. But since the financial instability began in 2007, credit conditions have tightened significantly.

Funding conditions for banks have improved a little since the May *Report*. And a number of banks have improved their capital and funding positions over recent months. That process may have been aided to some extent by the Bank's programme of asset purchases: it appears that some of the extra liquidity injected into the system in exchange for gilts may have been used to buy bonds and equities issued by banks.

(1) The box on pages 48-49 discusses the Committee's recent forecasting record

Assessing expectations of Bank Rate

The MPC's projections for GDP growth and CPI inflation are conditioned on assumed paths for interest rates. Charts 5.1 and **5.4** show the MPC's projections based on a path for Bank Rate implied by market interest rates. This measure, which is an estimate derived from market forward interest rates, shows rates picking up to above 4% by the end of 2012 (see the box on page 42). But there is no unique way of inferring market expectations for the path of future interest rates. This box discusses alternative measures of expected interest rates, which point to smaller expected increases in Bank Rate over the forecast period.

Market participants will have a range of views about how Bank Rate is likely to change. And individual market participants will attach different probabilities to different outcomes. The market interest rate path used in the MPC's projections can be interpreted as a measure of the mean of the distribution of expected future interest rates. One alternative approach is to estimate market participants' modal expectations, in other words their view of the most likely path of Bank Rate. With Bank Rate close to zero, even if market participants thought that rate cuts were as likely as rate increases, mean expectations would be likely to exceed modal expectations. That is because, while rates could be raised significantly, in practice they could only be cut by a maximum of 0.5 percentage points from their current level.

It is possible to construct an indicative estimate of modal expectations using information on market interest rate option prices, although a lack of price quotes means that indications of modal expectations can only be calculated out to the middle of 2011. That measure picks up less sharply over the forecast period than the mean measure underlying the MPC's market interest rates projections (Chart A).

Chart A Actual and expected Bank Rate

- Bank Rate
- Constant rates
- Estimate of mean expectations^(a) Indicative estimate of modal expectations(b)
- ٠ Reuters poll(c)
- ٠ Bank survey of external forecasters(d)



Sources: Bank of England, Bloomberg, Euronext.liffe and Bank calculations

(a) Curve estimated using overnight index swap (OIS) rates in the fifteen working days to

 5 August.
 (b) Derived by assuming independent log-normal distributions around the forward three-month OIS rates and forward three-month Libor-OIS spreads, calibrated such that the distributions for the forward Libor rates that they imply match those implied by short sterling options prices (which are options on forward three-month Libor rates) as closely as possible. Based on data on 5 August. (c) The Reuters poll was taken on 30 July. (d) Survey was conducted in late July.

Survey data provide another indicator of interest rate expectations. Responses to the latest Reuters survey suggested that, on average, professional economists expected Bank Rate to pick up to 2.1% by mid-2011 (Chart A). The Bank's survey of external forecasters asks respondents about their expectations for Bank Rate at longer horizons. In the latest survey, respondents, on average, expected Bank Rate to have picked up to 3.7% by 2012 Q3. These expectations are somewhat lower than the mean path underlying the MPC's projections.

But the amounts of funding and capital raised have been relatively small compared with the sizes of banks' balance sheets, and there is still a significant risk that the banks will curtail lending in order to further repair their balance sheets. There remains considerable uncertainty over the level of capital that banks will need to hold in the future in order to attract a normal level of funding, and so for a normal supply of lending to resume. In addition, the major UK banks will need to replace a significant amount of maturing funding in the coming years, including the substantial temporary funding support provided by the official sector during the crisis. And the banking system remains vulnerable to further shocks, from adverse economic or financial sector developments in the United Kingdom or abroad.

The MPC judges that the possibility of persistent weakness in bank lending poses a downside risk to nominal spending throughout the forecast horizon. Tight credit conditions may Q3

4.3

Financial and energy market assumptions

As a benchmark assumption, the projections for GDP growth and CPI inflation described in **Charts 5.1** and **5.4** are conditioned on a path for official interest rates implied by market interest rates (**Table 1**). In the period leading up to the MPC's August decision, the path implied by forward market interest rates was for Bank Rate to remain close to 0.5% for the rest of 2009 before rising gradually thereafter. Although that was similar to the path assumed in the May *Report* in the near term, it was higher further out.

Table 1 Conditioning path for Bank Rate implied by forward market interest rates^(a)

Percent														
	200)9		2010			2011				2012			
	Q3(b)	Q4	Q1	Q2	Q3	Q4		Q1	Q2	Q3	Q4	Q	1	Q2
August	0.5	0.5	0.7	1.1	1.7	2.2		2.7	3.2	3.6	3.8	4.() .	4.2
May	05	06	09	12	17	21		25	28	3.0	31	3 2	, ·	33

(a) The data are fifteen working day averages of one-day forward rates to 5 August and 6 May 2009
respectively. At short maturities, both curves are based on overnight index swap (OIS) rates. At longer
maturities, the August curve is based on OIS rates, while the May curve is based on instruments that settle
on Libor (adjusted for credit risk).
 (b) August figure for 2009 Q3 is an average of realised spot rates to 5 August, and forward rates thereafter.

The August projections are conditioned on an assumption that the total stock of asset purchases financed by the issuance of central bank reserves increases to £175 billion and remains at that level throughout the forecast period, higher than the assumption of £125 billion of purchases assumed in the May projections. The starting point for sterling's effective exchange rate index (ERI) in the MPC's projections was 83.3, the average for the fifteen working days to 5 August. That was 5.8% above the starting point for the May projections. Under the MPC's usual convention,⁽¹⁾ the exchange rate is assumed to depreciate slightly, to 82.8 by 2011 Q3, but is still higher throughout the forecast period than assumed in May.

The starting point for UK equity prices in the MPC's projections was 2319 — the average of the FTSE All-Share for the fifteen working days to 5 August. That was 9.7% above the starting point for the May projection. In the long run, equity wealth is assumed to grow in line with nominal GDP; in the short run, it also reflects changes in the share of profits in GDP.

Energy prices are assumed to evolve broadly in line with the paths implied by futures markets over the forecast period. Average Brent oil futures prices for the next three years were around 19% higher (in US dollar terms) than at the time of the May *Report*. Wholesale gas futures prices were around 9% lower over the forecast period. There is considerable uncertainty about the scale and pace of the pass-through of changes in wholesale energy prices to the prices of gas and electricity faced by households and companies. But the August projections are conditioned on a benchmark assumption that domestic energy bills are cut by around 5% in 2009 Q3, a somewhat smaller reduction than was assumed in May.

 The convention is that the sterling exchange rate follows a path which is half way between the starting level of the sterling ERI and a path implied by interest rate differentials.

bear down on households' consumption and their investment in dwellings. And reduced bank lending may constrain the activity of smaller companies in particular, by restricting their ability to finance day-to-day production and investment spending.

There are, however, some factors that could support a recovery in growth without a significant recovery in credit supply. Nominal spending growth should be supported by the expansion of money associated with the Bank's asset purchases. And many companies are likely to be able to finance spending without recourse to bank loans. The overall corporate sector financial balance appears to have been relatively healthy at the start of this recession, at least in aggregate, suggesting that some expansion in spending could be funded out of past profits.

Some companies are likely to need to raise funds externally to increase their spending. But many larger businesses can turn to the capital markets for funds in the absence of easily available bank lending. Over the past year, companies' net issuance of equity and bond finance has increased significantly

(Section 1). That process is also likely to have been aided to some extent by the Bank's asset purchases. Some of the substantial extra liquidity injected into the system is likely to have been used to buy bonds and equities issued by companies. And by acting as a backstop in some high-quality corporate credit markets, the asset purchase programme is likely to have improved the functioning of those markets, and so helped companies to raise more debt, more cheaply (see the box on page 16).

By how much will non-financial sector balance sheets adjust?

Even if credit availability does improve, spending may nevertheless be held back if households wish to strengthen their own balance sheets. Consumption has fallen sharply in recent quarters, as labour income has weakened, but also as the household saving rate has picked up. A key uncertainty underlying the outlook is the extent to which the household saving rate rises further.

There are a number of forces that might cause households to attempt to increase their savings. Past falls in the value of financial assets might cause households to reduce their spending. Saving might also rise if households have revised down their expectations of future earnings, or simply become more uncertain about their employment prospects. Those concerns might be most acute for households that have amassed high levels of debt. Finally, households might also feel that they need to save more to meet a higher future tax burden, given the fiscal consolidation that will be necessary in the years ahead.

But a further sharp rise in household saving is not a certainty. Past falls in net financial wealth have not always been followed by increases in saving, perhaps because households tend to look through such fluctuations. Although debt levels are high, the debt-servicing burden has fallen back for many households as Bank Rate has been reduced. Finally, some households may adjust to lower financial wealth and greater uncertainty not only through saving more, but also by working longer hours, or by delaying their retirement.

The MPC judges it likely that the household saving rate will rise further, particularly over the next year or so. That effect, combined with subdued labour income growth throughout the forecast period, is likely to result in relatively weak household spending growth.

There is also uncertainty over the pace at which the public sector balance sheet will adjust. The MPC's projections are conditioned on the fiscal plans set out in the 2009 Budget. Those plans imply a marked rise in the public sector debt to GDP ratio, with deficits narrowing towards the end of the Government's forecast period to 2013/14 (Section 2).

By how much will global demand support the UK recovery?

The MPC judges that output is likely to grow more rapidly than domestic demand over the forecast period, as net exports increase. That rebalancing of the UK economy should be aided by the lower level of sterling and a gradual recovery in the world economy following the abrupt contraction in global activity around the turn of the year. But the outlook for global demand is highly uncertain.

As in the United Kingdom, there is a chance that world demand will be held back by a significant increase in household saving, particularly in those countries that have tended to borrow from overseas, and where consumers have become heavily indebted. Expectations of future rises in taxes, following sharp rises in public debt in a wide range of countries, may also weigh on spending. And there may be a continued restraint on activity from impaired banking systems, and their effect on credit conditions.

There are also risks associated with a re-emergence of global imbalances, which contributed to the recent financial crisis, leading to volatility in asset prices and global demand. That could occur if the global recovery were too dependent on demand growth in those countries that tended to have current account deficits and there was insufficient demand in surplus countries.

Finally, a recovery in global demand poses a risk of further commodity price rises. Dollar oil prices have risen sharply since their trough in December 2008, amid signs that the global economy was stabilising.

How sensitive will inflation be to the weakness in demand?

The MPC judges that the stimulus should lead to some recovery in economic growth. But output has fallen sharply since the beginning of the recession, creating a significant margin of spare capacity. It is possible that even if growth recovers strongly, that spare capacity may continue to put some downward pressure on inflation. The precise size of the degree of slack, and the extent of the downward pressure that it will put on inflation over the forecast period, are both uncertain.

One source of uncertainty is the extent to which the supply capacity of the economy has been eroded, and will be eroded further. Supply could be adversely affected in a number of ways. Lower investment spending will slow the growth of the capital stock. More companies are likely to fail, resulting in the scrapping, or less efficient use, of their capital. Tight credit conditions are likely to constrain the output of some companies. And labour supply is likely to be reduced by the recession, both through some individuals becoming detached from the labour market following a period of unemployment,

and through weaker net inward migration. Experience overseas suggests that severe financial crises can result in significant and persistent reductions in supply capacity. The MPC judges that the financial crisis and attendant recession are likely to have a significant adverse impact on the supply capacity of the UK economy.

Despite that reduction in supply, however, the extent of the falls in activity means that output is likely to remain substantially below potential throughout much of the forecast period. It is hard to calibrate the precise effect which the resulting spare capacity will have on inflation. The sensitivity of inflation to slack in the economy depends on the monetary regime in place and how this affects inflation expectations. Since the inflation-targeting period began, fluctuations in spare capacity have been relatively muted, making it hard to determine their impact on inflation precisely, and making it difficult to be confident how inflation will be affected by the substantial slack over the forecast period. But given the commitment of the MPC to take action to keep inflation stable and at the target, inflation is likely to be less sensitive to the effects of the downturn than it was during some previous recessions in the United Kingdom, which occurred when policymakers sought to bring inflation down.

What will be the implications of higher import prices for consumer price inflation?

The weakness of demand, and the associated increase in labour market slack, has been one factor underlying the recent weakness of nominal wage growth. But wages are also likely to have been dampened by the effects of the lower level of sterling. Despite the slight appreciation since the May *Report*, the exchange rate remains some 20% below its level in mid-2007. Import prices have risen correspondingly, pushing up companies' costs. In order to accommodate such a large change in relative prices, while maintaining profit margins at sustainable levels, some combination of lower nominal wage growth and higher final prices has been necessary.

It is difficult to judge whether this adjustment to the lower exchange rate is now complete across all sectors of the economy. And even if not, the remaining adjustment could take place either through higher prices or further weak wage growth. The MPC judges it most likely that the effect of the depreciation on the inflation rate is now at or close to its peak. But the risks around that judgement are weighted towards some further adjustment occurring through higher prices, and therefore towards some further upwards pressure on inflation over the first part of the forecast period.

How will expectations of inflation evolve?

Survey measures of inflation expectations have remained stable at levels that appear roughly consistent with inflation at target. Inflation expectations might rise in the near term if inflation rises back above the target, perhaps because further

adjustment to the lower exchange rate occurs through higher final prices, or if global commodity prices increase. The substantial monetary policy loosening could also cause inflation expectations to rise.

But on the downside, inflation is judged likely to move further below target over the coming months. If money growth and the growth of nominal spending remain weak, or if the adverse effect of the recession on supply is at the lower end of the Committee's expectations, then inflation might weaken still further, and remain below target for an extended period. There would then be a risk that inflation expectations might also move downwards.

5.3 Summary and the policy decision

As described above, output growth is likely to continue to recover in the near term. But there are a number of factors which are likely to hinder the recovery in the medium term, particularly: the process of balance sheet repair in the banking system and the extent to which growth can strengthen without a recovery in lending; a possible sharp retrenchment in private sector domestic spending; and a weaker global recovery. The key factors affecting the outlook for CPI inflation are: in the near term, the extent to which higher import prices are passed into higher final prices; further out, the impact of the recession on supply, and the responsiveness of inflation to the emerging margin of spare capacity; and the extent to which inflation expectations remain anchored around target. The spread of outcomes for CPI inflation at the two-year horizon is shown in Chart 5.7, and the equivalent outlook at the time of the May Report is shown in Chart 5.8. Charts 5.9 and 5.10 show frequency distributions for inflation and output at the two and three-year horizons.





(a) Chart 5.7 represents a cross-section of the CPI inflation fan chart in 2011 Q3 for the market interest rate projection. It has been conditioned on the assumption that the stock of purchased assets financed by the issuance 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 2011 Q3 out 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 5.8 shows the corresponding cross-section of the May 2009 *Inflation Report* fan chart.
 (b) Average probability within each band; the figures on the y-axis indicate the probability of inflation being between any two rates is given by the total area of the shade bars between these rates. As the heights of identical to other show the central projection, to the probability on the bars above it, is given by the ratio of the width of those bars.

Chart 5.7 Projected probabilities of CPI inflation outturns in 2011 Q3 (central 90% of the distribution)^(a)



Chart 5.9 Frequency distribution of CPI inflation based on market interest rate expectations and £175 billion asset purchases^(a)



(a) These figures are derived from the same distribution as Chart 5.4. They represent the probabilities that the MPC assigns to CPI inflation lying within a particular range at a specified time in the future.

Chart 5.10 Frequency distribution of GDP growth based on market interest rate expectations and £175 billion asset purchases^(a)



⁽a) These figures are derived from the same distribution as Chart 51. They represent the probabilities that the MPC assigns to GDP growth lying within a particular range at a specified time in the future.

In monitoring those factors that are likely to hinder the recovery in output growth, the Committee will focus in particular on: the extent to which banks are restructuring their balance sheets and how much that is affecting their willingness to lend; the ability of companies to raise finance in the capital markets; measures of consumer and business confidence and household saving; and indicators of the recovery in global demand and its impact on UK exports.

In evaluating the outlook for inflation, the Committee will also monitor: money and nominal spending growth; evolving evidence on the impact of the recession on supply and the associated degree of spare capacity; indicators of the sensitivity of inflation to that spare capacity; inflation expectations; and indicators of the impact of the lower level of sterling on prices and wages.

At its August meeting, the Committee noted that the immediate prospect was for CPI inflation to fall substantially below the 2% target. Output appeared to be stabilising and the substantial stimulus from the easing in monetary and fiscal policy and the past depreciation in sterling should support a slow recovery in economic activity. But the margin of spare capacity in the economy was likely to continue to grow for some while, bearing down on inflation. In the light of that outlook, the Committee judged that to keep CPI inflation on track to meet the 2% inflation target in the medium term it should maintain Bank Rate at 0.5% and increase the size of the programme of asset purchases financed by the issuance of central bank reserves to a total of £175 billion.

The MPC's recent forecasting record

In this box, the latest in a series published each August in the *Inflation Report*, the MPC's past projections for GDP growth and inflation are assessed. Over the past year, output fell sharply and CPI inflation rose to 5.2% before falling back. The MPC's projections made at the start of 2008 suggested that the probability of such outturns were low. In response to the dramatic events of the past year, the MPC has reduced Bank Rate to a historic low and introduced a large-scale programme of asset purchases. In addition, the MPC has made significant changes to its inflation and growth projections.

The MPC's probability distributions for CPI inflation and GDP growth

Each quarter the MPC forms a judgement about the likely paths for output and inflation over the next three years, conditioned on a path for Bank Rate and assumptions about the evolution of the exchange rate, equity prices and energy prices. As there is always uncertainty about the outlook, these projections are produced in the form of probability distributions, rather than point forecasts, and are published in the form of fan charts.

The coloured area of the fan covers 90% of the probability distribution. So on average over a long period, if the conditioning assumptions were realised, 10% of outcomes should be expected to lie outside this area. The width of the fan indicates the MPC's assessment of the degree of uncertainty. Within the coloured area, each pair of coloured bands captures 10% of the distribution. But the two bands within each pair need not each capture 5% of the distribution. If the MPC thought, for example, that the risks to the outlook were to the downside, then there would be a greater probability in the lower of each pair of bands than in the higher.

MPC projections and outturns since 1998

One way of assessing the MPC's projections is to examine whether, over a period of time, around half of the outturns for inflation and growth fell within the central five pairs of bands of the published fan charts. Looking at those fan charts published between February 1998 and May 2008, around one half of inflation and growth outturns have fallen in the central five pairs of bands of the distribution at the one-year horizon (Table 1). At the two-year horizon, around two thirds of the inflation and growth outturns have fallen in the central five bands of the distribution. In part, that reflects the unexpected degree of stability in inflation and growth over much of the period since the MPC's inception. But it may also reflect the response of monetary policy. The MPC's fan charts are conditioned on a given path for interest rates. In practice, interest rates will vary from this path, as monetary policy responds to developments in the economy to bring inflation

 Table 1 Dispersion of inflation and growth outturns relative to fan chart probability distributions^(a)

	Number of outturns	Central five pairs of bands	Above central five pairs of bands	Below central five pairs of bands
Annual inflation				
One year ahead	42	40%	40%	19%
Two years ahead	38	68%	24%	8%
Four-quarter GDP grow	/th			
One year ahead	42	50%	26%	24%
Two years ahead	38	66%	18%	16%

(a) Calculated for the market rate fan charts published between February 1998 and May 2008. These calculations are relative to the band positions shown in the fan chart. Inflation fan charts refer to RPIX inflation up to November 2003 and CPI inflation thereafter. The percentages may not sum to 100 due to rounding.

back to target. Inflation outturns over longer horizons are therefore likely to have been more clustered around the target than implied by the fan charts alone. But the sample of fan charts is still relatively small, so it is difficult to draw firm conclusions about the MPC's overall forecasting record.

Why have outturns over the past year been outside the distribution?

The extent of the fall in output and the sharp movements in CPI inflation seen over the past year were much greater than the MPC (and indeed most external commentators) anticipated when forming forecasts in early 2008. Consequently, outturns for the past year have tended to fall outside of the fan charts' 90% probability distribution. The rest of this subsection discusses the unprecedented events of the past year relative to the assumptions underlying the February 2008 projections.

The MPC's projection for GDP growth made in February 2008 assumed that tight credit conditions would lead to higher household saving and weaker investment growth. That was expected to lead to a period of weak but positive GDP growth. Through 2008, however, market concerns over the liquidity and solvency of banks led to sharply deteriorating conditions in financial markets. And in September 2008, the banking system suffered a severe episode of instability, leading to announcements around the world of measures to support the banking system. Measures of business and household confidence fell sharply. And there was a particularly severe contraction in world trade. As events unfolded, and outturns for activity weakened sharply, forecasts of growth for both the United Kingdom and the world were revised down markedly (Chart A shows Consensus forecasts).

The projection in the February 2008 *Report* anticipated a rise in CPI inflation over 2008, reflecting the impact of an increase in energy prices and the past depreciation of the exchange rate. Inflation was then expected to fall back to a little above

Chart A Consensus forecasts of UK and world GDP growth in 2009^(a)



(a) The chart shows successive forecasts for annual growth in 2009. The world GDP growth forecast includes 83 consensus country forecasts. The average is calculated using 2007 GDP weights, converted at average 2007 exchange rates.

target. But the exchange rate depreciated further in 2008, pushing up import prices and, in turn, CPI inflation. By 2009 Q1, the exchange rate was around 20% lower than assumed at the time of the February 2008 projection. And commodity prices also increased more rapidly than expected. For example, oil futures curves at the start of 2008 had suggested that prices would stay close to \$90 in the following years. Instead, over the first half of 2008, oil prices rose sharply, peaking close to \$150. That pushed up CPI inflation directly through petrol prices, and indirectly through higher costs for businesses.

More recently, some pressures on inflation have waned. Oil prices fell back markedly in the second half of 2008. And the sharp falls in output growth around the turn of the year, and the associated increase in the margin of spare capacity, are likely to put more downward pressure on inflation in 2009 than forecasts made at the start of 2008 had incorporated.

Recent changes to the MPC's GDP projections

Following the unprecedented events over the past year, monetary and fiscal policies have been eased substantially in the United Kingdom and abroad. Notwithstanding that stimulus, the MPC, and external forecasters, have made significant downward adjustments to their view of the likely path of output growth and inflation.

As well as revising down the most likely outcomes over the forecast horizon, the MPC also changed its view of the distribution of future GDP outturns. Since August 2008 the MPC has judged that the outlook has become more uncertain, and has widened the GDP fan chart. And since February 2009, the MPC has put greater weight on the possibility that output growth will be very weak than on the possibility that it will be very strong, and has incorporated significant downside skews to the GDP projection.

Other forecasters' expectations

Every three months, the Bank asks a sample of external forecasters for their latest economic projections. This box reports the results of the most recent survey, carried out during July.

On average, CPI inflation was expected to be below the 2% target in 2010 Q3, rising over the following two years to reach the target by 2012 Q3 (Table 1). The medium-term profile was slightly higher than projected three months ago. The dispersion of central views about the outlook for inflation in the medium term was less than at the time of the May 2009 Report.

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

	2010 Q3	2011 Q3	2012 Q3
CPI inflation ^(b)	1.5	1.8	2.0
GDP growth ^(c)	1.1	2.0	2.3
Bank Rate (per cent)	1.0	2.6	3.7
Sterling ERI ^(d)	83.2	85.3	85.3

Source: Projections of outside forecasters as of 23 July 2009

(a) For 2010 Q3, there were 24 forecasts for CPI inflation, GDP growth and Bank Rate and 20 for the sterling ERI. For 2011 Q3 and 2012 Q3, there were 21 forecasts for CPI inflation, GDP growth and Bank Rate and 18 for the sterling ERI. (b) Twelve-month rate

(c) Four-quarter percentage change.
(d) Where necessary, responses were adjusted to take account of the difference between the old and new ERI measures, based on the comparative outturns for 2006 Q1.

On average, forecasters expected real GDP to increase over the coming year. This compared with a one year ahead forecast for a broadly unchanged level of activity in the May Report. The range of central views about near-term growth remained wide, but, unlike in May, the distribution was skewed towards stronger outcomes (Chart A). The projections for medium-term GDP growth were broadly unchanged from three months ago.

Chart A Distribution of GDP growth central projections one year ahead



Sources: Four-quarter GDP growth forecasts of 19 outside forecasters as of 29 April and 24 forecasters as of 23 July 2009

The average level of Bank Rate expected by forecasters was higher than three months ago, with the largest upward revision, of around 0.7 percentage points, at the two-year horizon. The box on page 41 compares these expectations with alternative paths for Bank Rate. On average, the sterling ERI was projected to remain close to its recent level over the next three years.

The Bank also asks forecasters for an assessment of the risks around their central projections for CPI inflation and GDP growth (Table 2). As was the case in May, respondents thought, on average, that there was around a 75% chance that inflation would be below target in one year's time. Further out, however, they attached less probability to inflation remaining below target (Chart B). In line with the higher central projection for growth, the probability of below-zero four-quarter GDP growth one year ahead has also fallen compared with May.

Table 2 Other forecasters' probability distributions for CPI inflation and GDP growth(a)

CPI inflation

Probability, per cent	Range:							
	<0%	0–1%	1–1.5%	1.5–2%	2–2.5%	2.5–3%	>3%	
2010 Q3	6	17	27	23	15	8	4	Ī
2011 Q3	6	14	18	24	21	12	6	
2012 Q3	4	10	17	23	23	15	8	

GDP growth

Range:					
<-1%	-1–0%	0–1%	1–2%	2–3%	>3%
7	15	31	28	14	5
4	8	18	31	26	13
3	7	16	25	29	20
	<-1% 7 4 3	<-1% -1–0% 7 15 4 8 3 7	Range <-1%	Range: <-1%	Range: <-1%

Source: Projections of outside forecasters as of 23 July 2009

(a) For 2010 Q3, 24 forecasters provided the Bank with their assessment of the likelihood of twelve-month CPI inflation and four-quarter GDP growth falling in the ranges shown above; for 2011 Q3 and 2012 Q3, 21 forecasters provided assessments for CPI and GDP. The table shows the average probabilities across respondents. Rows may not sum to 100 due to rounding.





Sources: Projections of 17 outside forecasters as of 29 April and 21 forecasters as of 23 July 2009.

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Text of Bank of England press notice of 4 June 2009 Bank of England maintains Bank Rate at 0.5% and continues with £125 billion Asset Purchase Programme

The Bank of England's Monetary Policy Committee today voted to maintain the official Bank Rate paid on commercial bank reserves at 0.5%. The Committee also voted to continue with its programme of asset purchases totalling \pounds 125 billion financed by the issuance of central bank reserves.

The Committee expects that the announced programme will take another two months to complete. The scale of the programme will be kept under review.

The minutes of the meeting will be published at 9.30 am on Wednesday 17 June.

Text of Bank of England press notice of 9 July 2009 Bank of England maintains Bank Rate at 0.5% and continues with £125 billion Asset Purchase Programme

The Bank of England's Monetary Policy Committee today voted to maintain the official Bank Rate paid on commercial bank reserves at 0.5%. The Committee also voted to continue with its programme of asset purchases totalling \pounds 125 billion financed by the issuance of central bank reserves.

The Committee expects that the announced programme will take another month to complete. The Committee will review the scale of the programme again at its August meeting, alongside its latest inflation projections.

The minutes of the meeting will be published at 9.30 am on Wednesday 22 July.

Text of Bank of England press notice of 6 August 2009 Bank of England maintains Bank Rate at 0.5% and increases size of Asset Purchase Programme by £50 billion to £175 billion

The Bank of England's Monetary Policy Committee today voted to maintain the official Bank Rate paid on commercial bank reserves at 0.5%. The Committee also voted to continue with its programme of asset purchases financed by the issuance of central bank reserves and to increase its size by £50 billion to £175 billion.

The world economy remains in recession, though there have been increasing signs that output in the United Kingdom's main export markets is stabilising. Financial market strains have eased and banks' funding conditions have improved a little, although financial conditions remain fragile. Household and business confidence has picked up, albeit from the very low levels experienced in the wake of the financial crisis last autumn.

In the United Kingdom, the recession appears to have been deeper than previously thought. GDP fell further in the second quarter of 2009. But the pace of contraction has moderated and business surveys suggest that the trough in output is close at hand. Underlying broad money growth has picked up since the end of last year but remains weak. And though there are signs that credit conditions may have started to ease, lending to business has fallen and spreads on bank loans remain elevated.

CPI inflation fell back to 1.8% in June, a little below the 2% target. The decline in recent months was mainly accounted for by lower food and energy inflation, though past falls in sterling continued to put upward pressure on inflation. The margin of spare capacity in the economy increased further and pay growth remained weak.

The future evolution of output and inflation will be determined by the balance of two sets of forces. On the one hand, there is a considerable stimulus still working through from the easing in monetary and fiscal policy and the past depreciation of sterling. On the other hand, the need for banks to continue repairing their balance sheets is likely to restrict the availability of credit, and past falls in asset prices and high levels of debt may weigh on spending. While some recovery in output growth is in prospect, the margin of spare capacity in the economy is likely to continue to grow for some while yet, bearing down on inflation in the medium term. But the recession and the restricted availability of credit are also likely to impact adversely on the supply capacity of the economy, moderating the increase in economic slack.

In the light of the Committee's latest *Inflation Report* projections and in order to keep inflation on track to meet the 2% inflation target over the medium term, the Committee judged that maintaining Bank Rate at 0.5% was appropriate. In the light of that outlook, the Committee also agreed that it should extend its programme of purchases of government and corporate debt to a total of £175 billion, financed by the issuance

of central bank reserves. The Committee expects the announced programme to take another three months to complete. The scale of the programme will be kept under review.

The Committee noted that the increase in the scale of the programme would necessitate an increase in the range of maturities of government debt that the Bank was willing to purchase. That was explained in an accompanying market notice.

Following today's meeting of the MPC, the Governor and the Chancellor exchanged letters about the expansion of the Asset Purchase Facility.

The Committee's latest inflation and output projections will appear in the Inflation Report to be published at 10.30 am on Wednesday 12 August.

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

Glossary and other information

Glossary of selected data and instruments

AEI – average earnings index. AWE - average weekly earnings. CDS - credit default swap. CPI - consumer prices index. CPI inflation – inflation measured by the consumer prices index. ERI – exchange rate index. GDP - gross domestic product. LFS – Labour Force Survey. Libor – London interbank offered rate. M4 – UK non-bank, non-building society private sector's holdings of sterling notes and coin, and their sterling deposits (including certificates of deposit, holdings of commercial paper and other short-term instruments and claims arising from repos) held at UK banks and building societies. OIS - overnight index swap. PMI – purchasing managers' index. RPI - retail prices index. RPI inflation – inflation measured by the retail prices index. RPIX - RPI excluding mortgage interest payments.

Abbreviations

- APF Asset Purchase Facility. BCC - British Chambers of Commerce. CBI – Confederation of British Industry. CGS – Credit Guarantee Scheme. CIPS – Chartered Institute of Purchasing and Supply. ECB – European Central Bank. EIA – Energy Information Administration. FISIM – Financial Intermediation Services Indirectly Measured. FTSE – Financial Times Stock Exchange. GfK – Gesellschaft für Konsumforschung, Great Britain Ltd. GVA – gross value added. HBF – Home Builders Federation. IMF - International Monetary Fund. MPC - Monetary Policy Committee. MTIC - missing trader intra-community. OECD - Organisation for Economic Co-operation and Development. OFCs - other financial corporations. **ONS** – Office for National Statistics. OPEC - Organization of the Petroleum Exporting Countries. **PNFCs** – private non-financial corporations. PwC - PriceWaterhouseCoopers. REC - Recruitment and Employment Confederation.
- RICS Royal Institution of Chartered Surveyors.

S&P – Standard & Poor's. VAT – Value Added Tax. WEO – IMF *World Economic Outlook*.

Symbols and conventions

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

n.a. = not available.

Because of rounding, the sum of the separate items may sometimes differ from the total shown.

On the horizontal axes of graphs, larger ticks denote the first observation within the relevant period, eg data for the first quarter of the year.

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