

# Inflation Report

November 2009



BANK OF ENGLAND







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

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

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

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

## **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

Spencer Dale

Paul Fisher

David Miles

Adam Posen

Andrew Sentance

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

The entire *Report* is available in PDF at [www.bankofengland.co.uk/publications/inflationreport/2009.htm](http://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](http://www.bankofengland.co.uk/publications/inflationreport/2009.htm).



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# Overview

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The world economy showed signs of recovery, although global activity remained significantly below pre-crisis levels. In the United Kingdom, output had fallen by about 6% over six quarters, but a number of indicators suggested that economic activity had begun to stabilise. A recovery in output is likely, driven by the considerable stimulus from the past easing in monetary and fiscal policy and the depreciation of sterling. But constraints on the supply of bank credit and concerns over balance sheets will weigh on spending. A degree of economic slack is likely to persist over the forecast period, although its extent will depend on the strength of the recovery and on developments in supply, both of which remain highly uncertain.

CPI inflation fell to 1.1% in September, but is likely to rise sharply to above the 2% target in the near term. Earnings growth remained subdued. Under the assumptions that Bank Rate moves in line with market interest rates and the stock of purchased assets financed by the issuance of central bank reserves reaches and stays at £200 billion, downward pressure from the margin of spare capacity bears down on inflation for much of the forecast period, although this gradually fades as the economy recovers. The risks of inflation being above or below target are broadly balanced by the end of the forecast period. 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 financed by the issuance of central bank reserves. Expectations of future levels of Bank Rate fell, as did gilt yields. Broad money growth weakened, although it was stronger than it would have been in the absence of the Bank's asset purchases. Equity and corporate bond prices rose markedly, buoyed by the asset purchase programme and perceptions that the risk of a more severe downturn had receded. The sterling exchange rate fell back, and was around a quarter below its mid-2007 peak.

Businesses with access to bond and equity markets continued to utilise them as a source of finance, and some used the proceeds to repay bank debt. There was a further improvement in banks' own funding conditions. But the need for banks to repair their balance sheets remained and the supply of bank credit to most companies and households continued to be restricted.

## Demand

The world economy showed signs of recovery, with a number of emerging economies experiencing a robust rebound in growth. The US economy grew strongly in Q3, reflecting

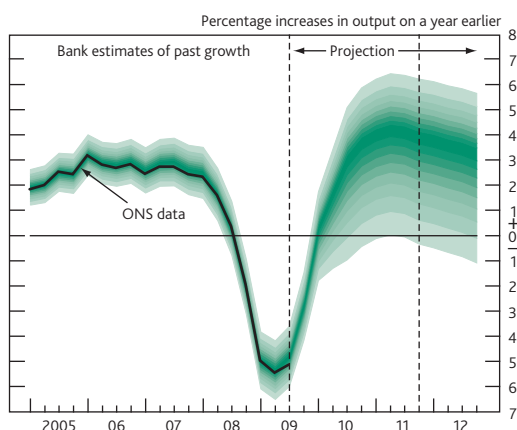
increased household spending. Growth in the euro area is also likely to have been positive in Q3. But global activity and trade remained well below pre-crisis levels and some of the turnaround in world demand has been associated with transitory factors. Even so, the emerging recovery in global demand and the substantial depreciation of sterling should support a continued improvement in the United Kingdom's net trade position.

Households have reduced their consumption substantially over the past year or so. Weakness in current and expected post-tax income and a desire to strengthen their balance sheets in a more uncertain economic environment are likely to have contributed to this contraction in household spending. Indicators of retail spending and consumer confidence picked up in Q3, which may herald some stabilisation in consumption in coming quarters.

Businesses continued to make sharp cutbacks to spending in the face of weak demand, uncertain growth prospects and tight credit conditions. Capital spending was estimated to have fallen by more than 10% in 2009 Q2, and de-stocking continued. Business investment is likely to fall further in coming quarters, although a reduction in the pace of de-stocking should boost output.

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

**Chart 1** GDP projection based on market interest rate expectations and £200 billion asset purchases



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 £200 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 outcomes 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 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 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.

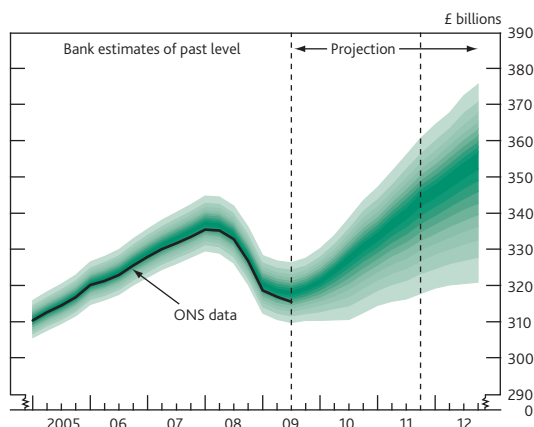
## The outlook for GDP

According to the provisional estimate, GDP fell by 0.4% in 2009 Q3, a significantly weaker outcome than anticipated at the time of the *August Report*. Initial estimates of GDP growth are prone to revision as more data become available. Evidence from business surveys, and the pattern of past revisions, suggests that this estimate is likely to be revised up a little in due course.

**Chart 1** shows the Committee's best collective judgement for four-quarter GDP growth, assuming that Bank Rate follows a path implied by market interest rates and the stock of assets purchased through the issuance of central bank reserves reaches and stays at £200 billion. The considerable stimulus from the past easing of policy, including asset purchases, and the depreciation of sterling should lead to a recovery in economic activity. Output in the near term will be further boosted as the inventory adjustment is completed. But there are a number of headwinds that are likely to impede the recovery. The supply of bank credit will probably remain constrained for a protracted period. The desire to strengthen private sector balance sheets and the recognition that a



**Chart 2** Projection of the level of GDP based on market interest rate expectations and £200 billion asset purchases



Chained-volume measure. See the footnote to **Chart 1** for details of the assumptions underlying the projection for GDP growth. The width of this fan over the past has been calibrated to be consistent with the four-quarter growth fan chart, under the assumption that revisions to quarterly growth are independent of the revisions to previous quarters. Over the forecast, the mean and modal paths for the level of GDP are consistent with **Chart 1**. So the skews for the level fan chart have been constructed from the skews in the four-quarter growth fan chart at the one, two and three-year horizons. This calibration also takes account of the likely path dependency of the economy, where, for example, it is judged that shocks to GDP growth in one quarter will continue to have some effect on GDP growth in successive quarters. This assumption of path dependency serves to widen the fan chart.

significant fiscal consolidation is required are likely to weigh on spending.

**Chart 2** shows the Committee's best collective judgement for the level of GDP, corresponding to the distribution of GDP growth shown in **Chart 1**. Despite the recovery in economic growth, output is very unlikely to return to a level consistent with a continuation of its pre-crisis trend for a considerable period. That reflects in large part the substantial impact of the downturn on the supply capacity of the economy, but also the sustained weakness of demand relative to that capacity.

The strength of the recovery remains highly uncertain and depends on the opposing forces affecting the outlook. The Bank's asset purchases have injected money into the economy, raising the prices of a range of assets and improving companies' access to capital markets. Nevertheless, spending growth remains weak. It is likely to take a considerable period for banks to repair their balance sheets; the impact of this protracted adjustment on spending will depend on the extent to which households and businesses can access alternative sources of finance. High levels of debt and increased uncertainty about the future may lead households to save more, although the low level of Bank Rate should dampen this tendency. The extent to which the United Kingdom is able to move towards a sustainable position of internal and external balance will depend in part on the strength of world growth.

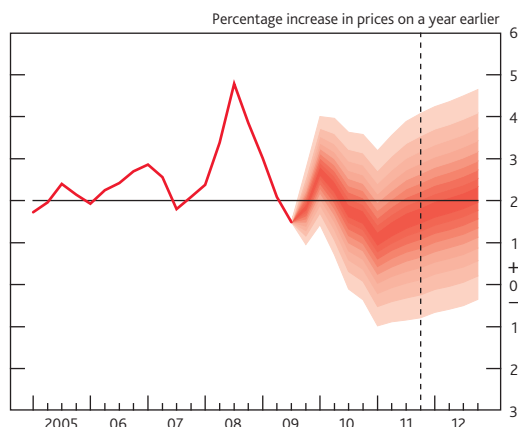
On balance, the Committee continues to judge that the interaction of these factors points to a slow recovery in the level of economic activity. The projected distribution for GDP growth is somewhat stronger than in the *August Report*, reflecting increased asset purchases, the lower interest rate path implied by market yields, the lower level of the exchange rate and a stronger outlook for world demand.

## Costs and prices

CPI inflation fell back to 1.1% in September, having been 5.2% a year earlier. Inflation is likely to rise sharply to above the 2% target in the near term, reflecting higher petrol price inflation and the reversal of last year's reduction in VAT. Measures of households' inflation expectations for the medium term remained stable at levels that appeared broadly consistent with inflation at target.

Earnings growth has slowed markedly over the past year, driven in part by the weakness in demand. But that may also be due to increased wage flexibility which could have contributed to the relative resilience of employment over this period. It may also reflect companies adjusting to the substantial rise in import costs associated with sterling's depreciation by pushing down on their other costs.

**Chart 3** CPI inflation projection based on market interest rate expectations and £200 billion asset purchases



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 £200 billion and remains 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 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.

## The outlook for inflation

**Chart 3** shows the Committee's best collective judgement of the outlook for CPI inflation, based on the same assumptions as **Chart 1**. Inflation is likely to rise sharply in the near term, primarily reflecting the reversal of the VAT reduction, while sterling's past depreciation continues to push up on inflation. Thereafter, downward pressure from the persistent margin of spare capacity is the dominant force. This pressure acts to bear down on CPI inflation, although it gradually fades as the economy recovers.

The extent to which CPI inflation will deviate from the 2% target is highly uncertain and depends on a number of factors. The degree of downward pressure from the weak demand environment will depend on the timing and strength of the recovery, the impact of the downturn on the supply capacity of the economy, and on the sensitivity of inflation to the degree of economic slack. The profile for inflation will also depend on the extent to which companies need to adjust further to the higher import costs associated with sterling's depreciation and on whether there are further substantial movements in energy and commodity prices. There is a range of views among Committee members about the relative strength of these factors. On balance, the Committee judges that, conditioned on the monetary policy assumptions described above, the risks of inflation being above or below the target are broadly balanced by the end of the forecast period. The outlook for inflation in the medium term is somewhat higher than in August, reflecting the stronger projected distribution for GDP growth.

## The policy decision

At its November meeting, the Committee noted that the substantial stimulus from the past easing in monetary and fiscal policy and the depreciation of sterling should lead to a slow recovery in the level of economic activity. CPI inflation looked set to rise sharply in the near term. Further out, downward pressure from the persistent margin of spare capacity was likely to bear down on inflation for some time to come. The Committee noted that a further expansion of the asset purchase programme should reduce that margin of spare capacity and bring inflation back to target more quickly. In light of the outlook, the Committee judged that maintaining Bank Rate at 0.5% and increasing the size of its asset purchase programme by £25 billion to a total of £200 billion was appropriate to keep CPI inflation on track to meet the 2% inflation target over the medium term.

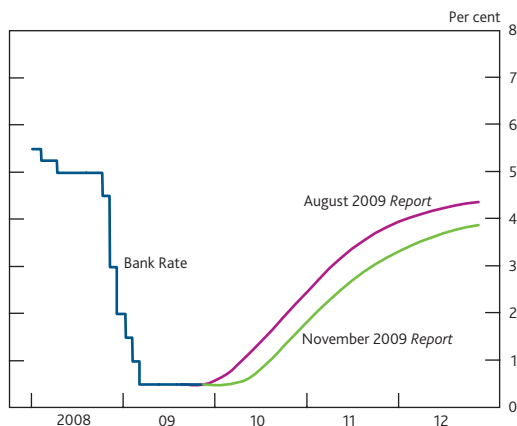
# 1 Money and asset prices

The MPC maintained Bank Rate at 0.5%, and voted to increase the scale of asset purchases financed by the creation of central bank reserves to £200 billion. A range of asset prices have risen since August, in part as a result of the MPC's programme of asset purchases. Strains in the banking sector eased a little, but the sector remains fragile. Although there have been signs that the supply of bank credit to companies and households may have stabilised, bank credit conditions remain tight.

The MPC maintained Bank Rate at 0.5%, and continued its programme of asset purchases. Section 1.1 discusses how this substantial monetary policy stimulus has affected money growth. It is likely that monetary policy, together with the associated gradual improvement in the economic climate, has played a role in the recovery in asset prices (Section 1.2).

A key influence on the strength of the recovery in economic activity will be the extent to which business and household spending is constrained by the supply of bank lending. In recent months banks' funding conditions have improved, in part as immediate pressures on banks' capital positions have eased a little (Section 1.3). That is likely to have contributed to some stabilisation in indicators of credit conditions for companies (Section 1.4) and households (Section 1.5). But credit conditions continue to be tight, and the need for banks to repair their balance sheets remains.

**Chart 1.1** Bank Rate and forward market interest rates<sup>(a)</sup>



Sources: Bank of England and Bloomberg.

(a) The August and November curves are estimated using overnight index swap (OIS) rates in the fifteen working days to 5 August 2009 and 4 November 2009 respectively.

## 1.1 Monetary policy

The MPC maintained Bank Rate at 0.5% (**Chart 1.1**) and, at its November meeting, voted to increase the scale of its programme of asset purchases to £200 billion. The reasons behind the MPC's decisions in September and October are discussed in the box on page 10.

In the period running up to the MPC's November decision, market participants expected short-term interest rates to be lower over the next three years than at the time of the *August Report*, according to overnight index swap (OIS) rates (**Chart 1.1**). Lower interest rate expectations should reinforce the impact of the current low level of Bank Rate and the MPC's asset purchase programme by further stimulating nominal demand growth, for example by pushing down the cost of new fixed-rate borrowing.

## Monetary policy since the August Report

The MPC's projection for GDP growth in the *August Report*, under the assumptions that Bank Rate followed a path implied by market interest rates and that the stock of purchased assets financed by the issuance of central bank reserves reached £175 billion and remained at that level throughout the forecast period, was for a slow recovery in output. Under the same assumptions, the MPC's projection was for CPI inflation to be volatile over the second half of 2009 and early 2010, falling further in the near term before rising again over the following months. The MPC judged that downward pressure from spare capacity in the economy would mean that inflation was more likely than not to be below the 2% target in the medium term.

In the month leading up to the MPC's meeting on 9–10 September, the near-term downside risks to economic activity had lessened. GDP growth in Q2 had been revised to -0.7% from -0.8%. And since that release, the combination of new construction and industrial production data for Q2 suggested that GDP might be revised further in the same direction. The recent trend towards a steady improvement in business survey indicators across the globe had continued. The JPMorgan Global Purchasing Managers' Indices had increased further in August, and were above the levels that prevailed just before the collapse of Lehman Brothers.

These short-term developments had limited implications for the medium-term inflation outlook. Although indicators of output growth were more encouraging, output had contracted by more than 5% over the past year, and there was likely still to be a large degree of spare capacity in the economy. Unemployment had continued to rise, and was likely to continue increasing for some time. And the banking system still had to complete a process of balance sheet adjustment, including raising new capital, imposing monetary restraint on the economy.

CPI inflation was 1.8% in July and 1.6% in August, higher than implied by the *August Inflation Report* central projection. One possible explanation was that the past depreciation of sterling was having a more persistent impact on CPI inflation than previously thought. Alternatively, the Committee might have misjudged either the amount of economic slack in the economy or its impact on inflation.

The medium-term outlook had not changed markedly since the August meeting when the Committee had decided on, and announced, a programme of asset purchases for the three months up to the November MPC meeting. All members therefore agreed to continue with the announced programme of asset purchases, and to maintain Bank Rate at 0.5%.

In the month leading up to the MPC's meeting on 7–8 October, the prices of many assets had increased. Equity prices had risen by around 50% since their March lows, but still remained at least 25% below their pre-crisis highs. Corporate bond yields and spreads had declined further, and yields on investment-grade bonds had fallen below their average of the past decade. In the interbank market, sterling Libor-OIS spreads had fallen. And there had been continuing signs of improvements in longer-term funding markets for banks, with further euro-denominated covered bond issuance by UK banks and the first issuance of a sterling-denominated residential mortgage-backed security to private markets since the first half of 2008.

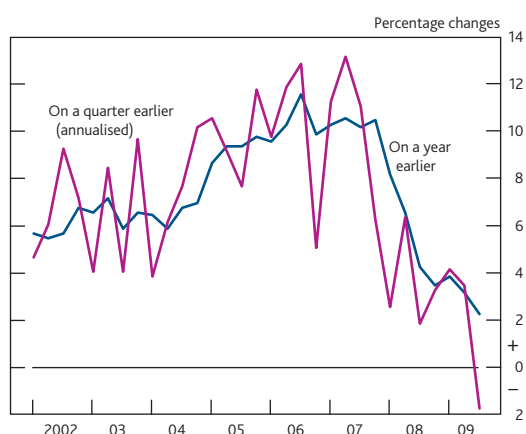
Data on near-term activity had generally been positive. Internationally, data had been consistent with a continuing recovery in global activity. Domestically, the combination of the latest official data and the most recent surveys suggested a stabilisation of output around the middle of the year.

Near-term inflation was likely to remain volatile. CPI inflation had fallen sharply in September, to 1.1%. In line with pre-release arrangements, only limited detail on the breakdown had been provided to the MPC. But it appeared that the 0.5 percentage point fall in inflation could be wholly accounted for by utility price increases from the previous summer dropping out of the twelve-month comparison. CPI inflation remained likely to pick up in coming months, as further such base effects from movements in petrol prices a year earlier fed through, and as the temporary cut in VAT is reversed.

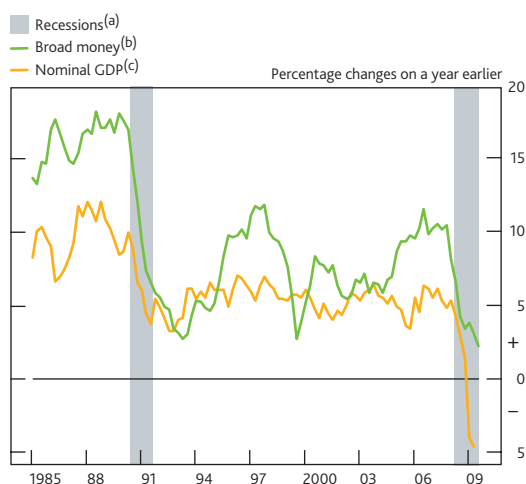
Key factors influencing the medium-term outlook for inflation included the prospects for balance sheet adjustment by banks, the public and non-bank private sectors and, internationally, the prospects for a rebalancing of global demand. Overall, there were differences of view among members of the Committee on the balance of risks to the medium-term outlook for inflation, and how it had shifted in recent months.

All Committee members, however, agreed that recent developments were not sufficiently compelling to justify revising the target level of asset purchases that had been agreed at the August meeting or to change the level of Bank Rate at this meeting. All members therefore voted to maintain the level of Bank Rate at 0.5%, and to continue with the announced programme of asset purchases.

At its meeting on 4–5 November, the Committee voted to maintain Bank Rate at 0.5%. The Committee also voted to increase the size of its programme of asset purchases financed by the issuance of central bank reserves by £25 billion to a total of £200 billion.

**Chart 1.2** M4 excluding intermediate OFCs<sup>(a)</sup>

(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 of England by several banks.

**Chart 1.3** Nominal GDP and broad money

(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) The series is constructed using M4 growth prior to 1998 Q4, and growth in M4 excluding intermediate OFCs, as defined in footnote (a) in Chart 1.2, thereafter.  
 (c) At current market prices. The latest observation is 2009 Q2.

**Table 1.A** Sectoral broad money<sup>(a)</sup>

Percentage changes on a year earlier	2000–07		2008		
			Q1	Q2	Q3
Households	7.9	7.6	4.4	2.8	2.6
Private non-financial corporations (PNFCs)	8.7	-1.3	-2.9	-1.0	0.8
OFCs excluding intermediate OFCs <sup>(b)</sup>	7.7	6.4	9.2	8.4	2.1

(a) Averages of monthly data, unless otherwise stated.

(b) Based on quarterly data. For a definition of intermediate OFCs see footnote (a) in Chart 1.2.

## Money

Broad money growth<sup>(1)</sup> has fallen significantly since the beginning of the financial crisis, as credit conditions have tightened and bank lending and nominal spending have weakened. The MPC aims to support spending by purchasing assets with newly created central bank money. Broad money growth is therefore a potentially useful indicator of the impact of the Bank's asset purchases.

Broad money growth weakened further in 2009 Q3 (Chart 1.2). Although it is hard to know exactly how money growth would have evolved absent the Bank's asset purchases, the latest data nonetheless appear somewhat stronger than implied by the marked contraction in nominal GDP. For example, the early 1990s recession was associated with a sharper fall in money growth (Chart 1.3). That suggests that the Bank's asset purchases have supported money growth since March.

The composition of money growth also suggests that the extra liquidity provided by asset purchases is feeding through into the wider economy, and hence is likely to support nominal demand over time. Although growth in both private non-financial corporations' (PNFCs) and households' deposits remains weak, PNFCs' deposits increased in Q3, following falls over much of 2008 and 2009 H1, while growth in households' deposits was broadly unchanged (Table 1.A). The slowdown in money growth in Q3 was accounted for by lower growth in the deposits of non-bank financial corporations.

One reason why money growth has been subdued is that some households and companies have paid down debt instead of keeping that money on deposit. Such debt repayment is particularly common during downturns. But reductions in the cost of capital market finance, in part as a result of the Bank's asset purchase programme, may have enabled more companies to issue such finance and pay down bank debt in the current episode (Section 1.4).

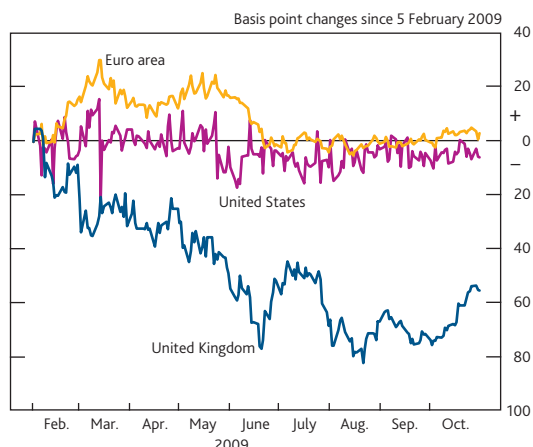
The issuance of long-term debt and capital instruments by banks may also be depressing money growth. Banks have issued long-term debt in recent months (Section 1.3); if purchased by non-bank investors, that reduces their deposits and hence broad money growth.

## 1.2 Asset prices

A range of asset prices have risen. That is likely to reflect, in part, the stimulus provided by monetary policy both in the United Kingdom and abroad, including targeted support for sterling corporate bond and commercial paper markets. More

(1) 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).

**Chart 1.4** Five-year nominal spot gilt yields less equivalent-maturity OIS rates<sup>(a)</sup>



Sources: Bloomberg and Bank calculations.

(a) For the United States and euro area, lines show five-year government bond yields less OIS rates.

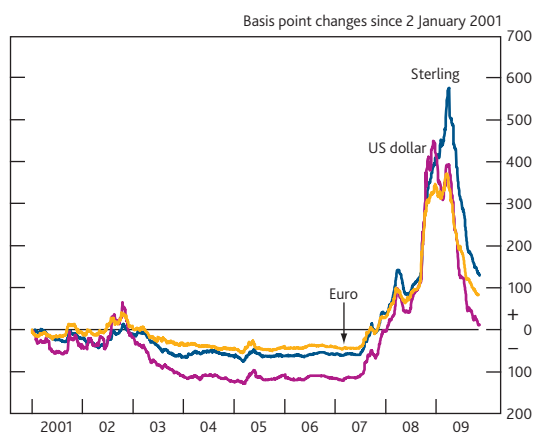
**Chart 1.5** Equity prices<sup>(a)</sup>



Sources: Bank of England and Thomson Datastream.

(a) In common currency (US dollar) terms.

**Chart 1.6** Investment-grade corporate bond spreads<sup>(a)</sup>



Source: Bank of America/Merrill Lynch.

(a) Option-adjusted spreads over equivalent-maturity government bond yields.

generally, the stimulus has contributed to a reduction in the risk of a more severe global downturn, which is likely to have played a role in the rally in asset prices.

## Gilts

One channel through which the Bank's asset purchases should boost nominal spending is by pushing up a range of asset prices and lowering yields. Initially, this effect should be seen in the gilt market, where the Bank's asset purchases have been concentrated.

Gilt yields have fallen since the end of July across a range of maturities. As well as the direct impact of the Bank's purchases, gilt yields reflect other factors, including market participants' expectations of the future path of official interest rates. One way to strip out the impact of interest rate expectations is to look at the spread between gilt yields and OIS rates at the same maturity. Such spreads have fallen since the introduction of the asset purchase programme (Chart 1.4 shows this for five-year spreads). Moreover, they have fallen by more than 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 outstanding stock. That suggests that the Bank's asset purchases have indeed reduced gilt yields, relative to where they would otherwise have been.

## Equity and corporate bond markets

By pushing down gilt yields, and reducing the stock of available gilts, the Bank's asset purchases encourage investors to switch into other assets, including equities and corporate bonds. That helps to reduce the cost of companies' finance (Section 1.4). In the run-up to the November Report, the FTSE All-Share was 14% higher than at the time of the August Report (Chart 1.5). Sterling investment-grade corporate bond prices have also risen and associated yields have fallen. In part, that reflects the fall in gilt yields. But the spreads on corporate bonds relative to those yields have also fallen back markedly (Chart 1.6). These developments are consistent with the Bank's programme of asset purchases supporting demand for equities and corporate bonds. There have also been rallies across a range of asset markets globally, although that may in part reflect the impact of expansionary monetary policy abroad.

In the United Kingdom and abroad, investors may have become less worried about more severe downside risks materialising. Risk-averse investors typically demand higher returns from assets that they believe offer a more uncertain return. For example, an estimate of the equity risk premium picked up markedly during the worst of the financial crisis in 2007–08 (Chart 1.7), as investors demanded higher compensation for bearing risk. But it has since fallen back to around its average over the past decade.



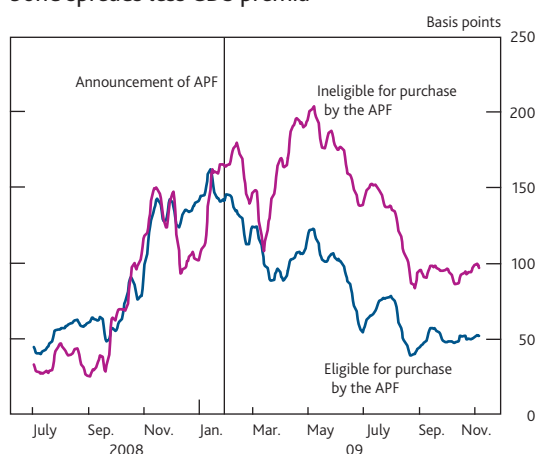
**Chart 1.7** Estimate of FTSE All-Share equity risk premium<sup>(a)</sup>



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

(a) Monthly averages of daily estimates derived from a dividend discount model. For further details, see Panigirtzoglou, N and Scammell, R (2002), 'Analysts' earnings forecasts and equity valuations', *Bank of England Quarterly Bulletin*, Spring, pages 59–66. The model has subsequently been extended to include the term structure of the default-free yield curve and year-on-year IBES earnings expectations over the next three years.

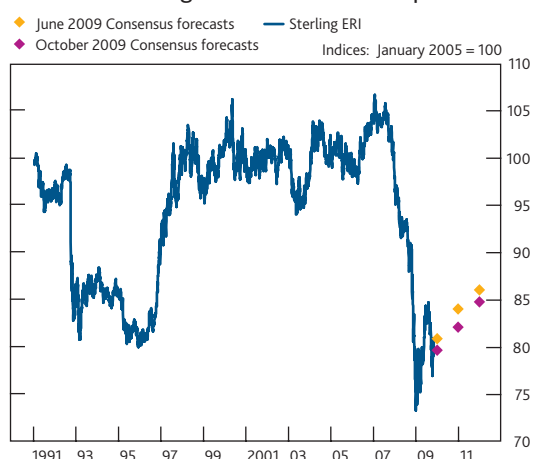
**Chart 1.8** Sterling non-bank investment-grade corporate bond spreads less CDS premia<sup>(a)</sup>



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. The maturity of the bonds used in this calculation may not necessarily match the maturity of the corresponding CDS premia. The chart shows median measures.

**Chart 1.9** Sterling ERI and Consensus expectations<sup>(a)</sup>



Sources: Bank of England and Consensus Economics.

(a) Expectations for the ERI are derived from bilateral US dollar, euro and yen exchange rate forecasts, weighted by UK trade shares in 2007. Expectations are for year ends.

The pickup in equity prices and reduction in corporate bond yields appears to reflect growing confidence among investors about prospects for corporate earnings. A number of forecasters have revised up their GDP projections in recent months, including the IMF (Section 2). A stronger outlook may have pushed up investors' expectations about future dividend payments and reduced the perceived likelihood of default on corporate bond payments, increasing the price that investors are willing to pay for these assets.

As well as boosting the demand for corporate assets by reducing gilt yields, the Bank has provided targeted support to corporate bond and commercial paper markets. Since early 2009, the Bank has acted as a backstop in the sterling corporate bond market, with the aim of increasing market liquidity, and so reducing the cost of borrowing. An indicator of market liquidity — the difference between corporate bond spreads and credit default swap (CDS) premia — suggests that illiquidity premia have fallen a little since August, both for bonds that are eligible for purchase by the Asset Purchase Facility (APF) and those that are not (Chart 1.8).<sup>(1)</sup> Schemes with a similar objective have been implemented in commercial paper markets. Spreads on primary issuance of high-quality commercial paper have fallen further in recent months.

## Sterling

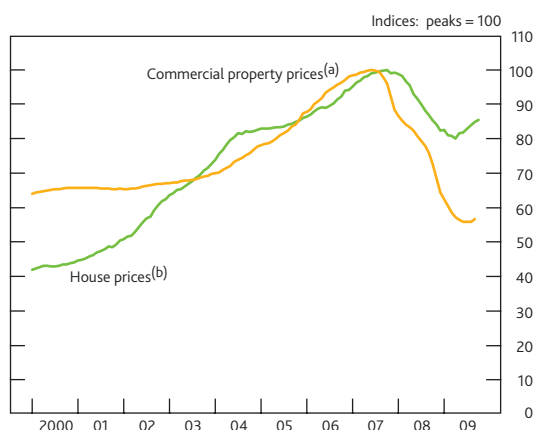
The sterling effective exchange rate index (ERI) was 4% lower in the run-up to the November *Report* than at the time of the August *Report*. That was around 25% lower than in mid-2007 (Chart 1.9). Market contacts suggested that the decline since August in part reflected reductions in interest rate expectations in the United Kingdom relative to those abroad. On average, respondents to the Consensus survey continued to expect sterling to appreciate over the next two years. Although expectations in the October survey were a little lower than those reported in June (Chart 1.9), forecasters had not markedly changed their view of the medium-term outlook for sterling.

## Property markets

According to both the Halifax and Nationwide indices, house prices have picked up in recent months, having fallen sharply through 2008 and early 2009 (Chart 1.10). Housing market activity has also increased in recent months, although the number of transactions is only about two thirds of its decade average.

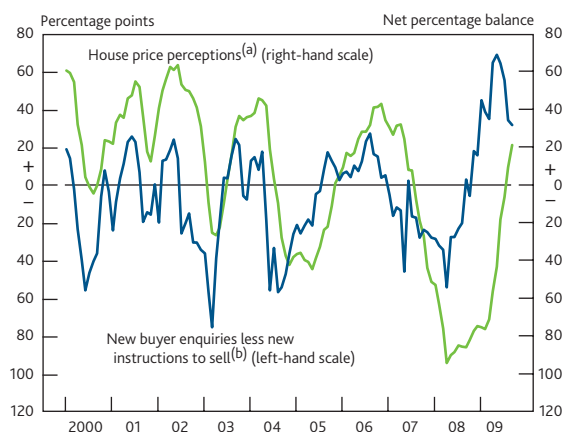
The rise in house prices could, in part, reflect similar factors to those driving movements in equity and corporate bond markets, as the perceived downside risks associated with the housing market have receded. But it may also reflect an unusual imbalance between demand and supply in the,

(1) See the box on page 16 of the August 2009 *Report* for a discussion of liquidity in corporate bond markets.

**Chart 1.10 Property prices**

Sources: Halifax, Investment Property Databank, Nationwide, Thomson Datastream and Bank calculations.

- (a) The latest observation is September 2009.  
 (b) The average of the Halifax and Nationwide measures. The published Halifax index has been adjusted in 2002 by the Bank of England to account for a change in the method of calculation. The latest observation is October 2009.

**Chart 1.11 Survey indicators of house price perceptions and market tightness**

Source: Royal Institution of Chartered Surveyors (RICS).

- (a) Percentage of respondents reporting price rises over the past three months less the percentage reporting price falls.  
 (b) Net percentage balance of respondents reporting an increase in new buyer enquiries over the past month less the net percentage balance reporting an increase in new instructions to sell over the same period.

relatively illiquid, housing market. RICS survey responses show that new buyer enquiries, an indicator of housing demand, have been very strong relative to new instructions to sell, an indicator of supply. That could be expected to push up prices; indeed, this measure of market tightness has moved with the RICS indicator of house prices in the past (**Chart 1.11**). Such an imbalance is unlikely to persist; in fact, there is some evidence in the latest survey responses that it has begun to unwind. The outlook for the housing market will depend in part on the supply of mortgage credit (Section 1.5).

There are signs of a stabilisation in commercial property prices, but the market remains fragile. According to the Investment Property Databank, commercial property prices rose a little in August and September, the first rises since mid-2007 (**Chart 1.10**). But market contacts remained concerned about the availability of funds to refinance maturing loans, and the associated risk of further defaults, and renewed falls in prices, if loans were not refinanced.

### 1.3 The banking sector

Similar factors to those underlying the increases in asset prices have contributed to a slight easing in pressures on banks' capital and some improvement in their funding positions. But banks continue to need to restructure and strengthen their balance sheets.

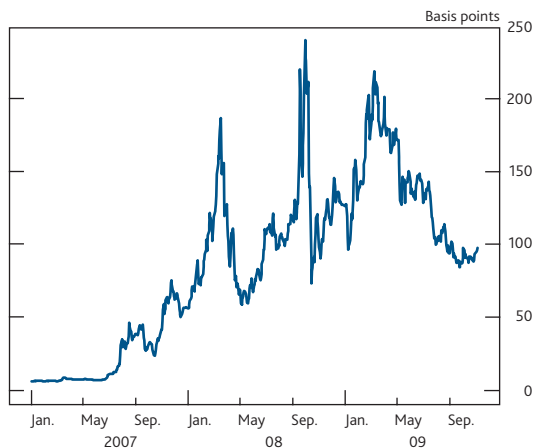
#### Capital

The immediate pressure on banks' capital from potential losses may have abated somewhat. Rises in property prices (**Chart 1.10**) have reduced the losses that lenders would face on secured loans if borrowers were to default. In addition, responses by UK lenders to the 2009 Q3 *Credit Conditions Survey* suggested that defaults across a range of loans had been less than expected at the time of the previous survey. That could be because the pickup in company liquidations has been less rapid than in the 1990s recession. In addition, household mortgage arrears are some way below their previous peaks (see the box on pages 22–23).

Banks have continued to strengthen their capital positions. In aggregate, the major UK banks increased their core Tier 1 capital ratio to around 7.4% in 2009 H1, up from an average of around 6% between 2003–08. And in early November, Royal Bank of Scotland confirmed its participation in the Government's Asset Protection Scheme (APS). Lloyds Banking Group announced that it did not intend to participate in the APS, but set out alternative plans for further significant capital raising.

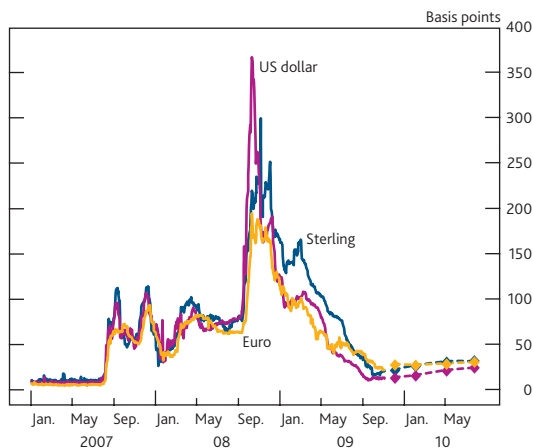
Banks nevertheless remain vulnerable to further losses. Indeed, lenders responding to the Q3 *Credit Conditions Survey* expected defaults to pick up further. The commercial property market remains fragile. And forbearance by some companies'



**Chart 1.12** Major UK banks' CDS premia<sup>(a)</sup>

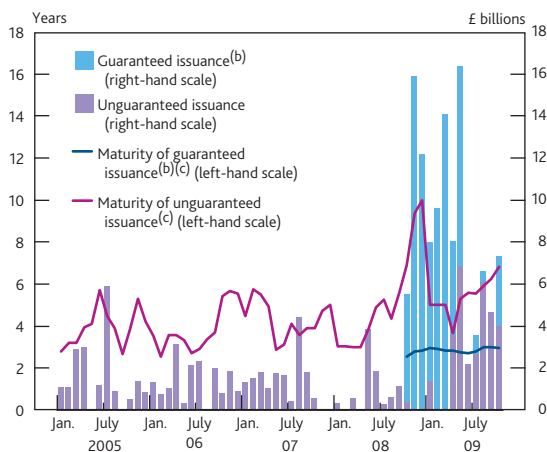
Sources: Markit Group Limited, published accounts, Thomson Datastream and Bank calculations.

(a) The data show a weighted average of the CDS premia (at five-year maturity) of major UK banks, weighted by each bank's share in total assets.

**Chart 1.13** Three-month interbank rates relative to future expected policy rates<sup>(a)</sup>

Sources: Bloomberg and Bank calculations.

(a) Three-month Libor rates over equivalent-maturity OIS. Dashed lines show the average forward spreads derived from forward rate agreements over the fifteen working days to 4 November 2009.

**Chart 1.14** UK banks' senior debt issuance<sup>(a)</sup>

Sources: Bank of England, Dealogic and Bank calculations.

(a) Issuance with a value greater or equal to US\$500 million equivalent and original maturity greater than one year and less than 50 years. Data are converted into sterling terms using monthly averages of the sterling-dollar exchange rate.

(b) Senior debt issued under HM Treasury's Credit Guarantee Scheme.

(c) Three-month rolling average. The average maturity is calculated by weighting each issue by its tranche value.

creditors, including banks themselves, may mean that some losses have only been postponed (Section 3). For example, lenders reported instances where loans had breached their covenants as collateral values fell, but as long as borrowers were able to meet their interest payments the lenders had not foreclosed on those loans.

There remains, however, considerable uncertainty over the level of capital that banks will need to hold in the future. Capital ratios appear low relative to historic levels.<sup>(1)</sup> Although CDS premia — an indicator of the compensation investors require to bear the default risk associated with the debt of banks — have fallen slightly since the *August Report*, they remain elevated relative to pre-crisis levels (**Chart 1.12**). And financial regulators are expected to raise future required capital ratios: at the September 2009 G20 meeting it was announced that, as financial conditions improve, higher regulatory capital requirements would be phased in.

### Funding

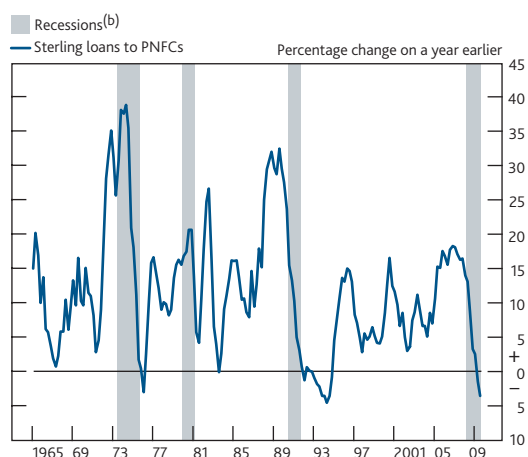
Alongside the easing in immediate pressures on banks' capital positions, banks' short-term funding conditions have improved. Three-month Libor-OIS spreads have fallen back internationally (**Chart 1.13**). Sterling spreads have returned to levels last seen in August 2007, and forward contracts suggest that these lower spreads are expected to persist. But interbank lending volumes remain low.

The supply of longer-term funding has also improved. UK banks' unguaranteed senior debt issuance has been robust in recent months (**Chart 1.14**). The average maturity of that issuance has been slightly higher than in 2005–07. And secondary market spreads — although still well above pre-crisis levels — suggest that the cost of issuance has fallen. In part, that fall may reflect investors switching into private sector assets as a result of the Bank's gilt purchases.

There are signs of a reopening of the markets for some asset-backed securities. For example, Lloyds Banking Group and Nationwide have both issued new residential mortgage-backed securities since August. But it is not clear how strong the appetite of issuers and investors for such securities will be in the future. Indeed, most major UK lenders reported that they had not materially changed their view of future funding availability as a result of the issuance, although some were encouraged by the latest developments.

Despite signs of improvement, banks' funding conditions remain difficult. For example, the major UK banks will still need to replace a significant amount of maturing funding in coming years, including support provided by the official sector through the crisis. And capital adequacy concerns may still be pushing up funding costs.

(1) See the June 2009 *Financial Stability Report* for further details.

**Chart 1.15** Sterling loans to PNFCs<sup>(a)</sup>

(a) M4 lending excluding the effects of securitisations and loan transfers.

(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, apart from the 1970s where two separate occasions of falling output are treated as a single recession.

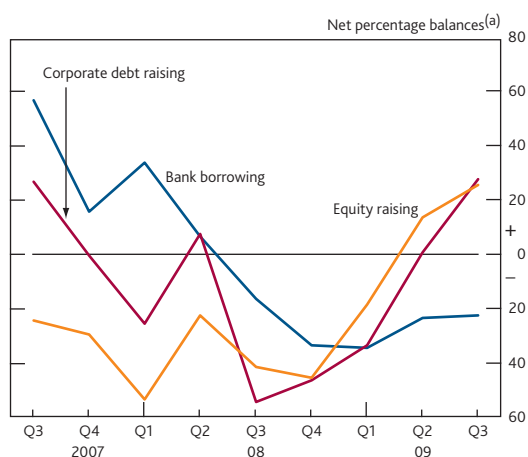
**Table 1.B** PNFCs' equity and debt issuance<sup>(a)</sup>

£ billions

	Averages		2009		
	2003–07	2008	Q1	Q2	Q3
<b>Equities</b>					
Net issuance	-0.8	-0.3	3.1	4.4	1.0
Gross issuance	0.8	1.0	3.1	4.5	1.0
Repayments	1.6	1.3	0.0	0.0	0.0
<b>Corporate bonds<sup>(b)</sup></b>					
Net issuance	1.1	0.8	0.1	2.8	1.0
Gross issuance	2.5	2.6	4.7	5.2	2.8
Repayments	1.3	1.8	4.6	2.4	1.8
<b>Commercial paper</b>					
Net issuance	0.0	0.0	-1.1	-0.2	-0.8
Gross issuance	4.2	5.1	6.0	3.8	2.1
Repayments	4.3	5.0	7.1	4.0	2.8

(a) Averages of monthly flows of sterling and foreign currency funds. Data are non seasonally adjusted.

(b) Includes stand alone and program bonds.

**Chart 1.16** Survey measures of the attractiveness of different sources of finance

Source: The Deloitte CFO Survey 2009 Q3.

(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 that it was unattractive.

## 1.4 Corporate credit conditions

Total finance raised by companies from banks and capital markets fell in 2009 Q3. In part, that weakness is likely to reflect subdued demand for finance, as growth in the stock of loans to PNFCs typically slows during recessions (**Chart 1.15**). But a restricted supply of bank finance is also likely to have played a role. As this subsection discusses, capital market finance has risen as bank lending has declined.

### Capital market finance

Net issuance of corporate bonds and equity remained positive in Q3 (**Table 1.B**), but it was sharply lower than the very strong issuance in Q2. Although some companies may have been expanding their overall borrowing, lenders reported that some have used funds raised on capital markets to pay down their outstanding bank debt. That suggests that capital raising in part reflects the need for companies to restructure their balance sheets.

A shift in credit demand away from banks is consistent with the Q3 *Deloitte CFO Survey*, which reported that chief financial officers rated equity and corporate debt as increasingly attractive relative to bank borrowing (**Chart 1.16**). In part, that probably reflects the recent rise in equity prices and fall in corporate bond yields (Section 1.2). In addition, some market contacts have reported that bank debt is currently thought to weigh more heavily on companies' credit ratings than capital market debt, reflecting concerns about refinancing bank debt in the current environment.

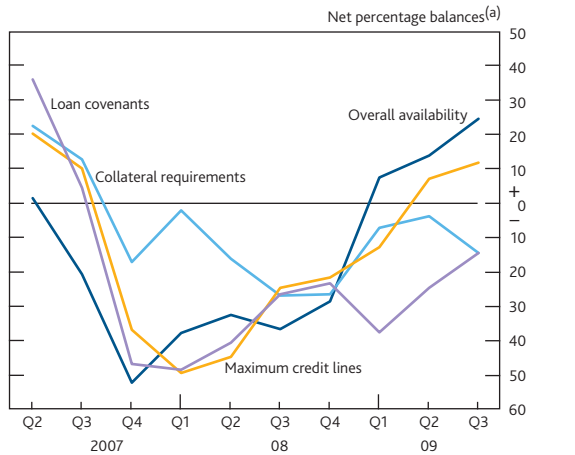
### Bank lending

Some companies cannot easily access capital markets, however, so they necessarily rely more heavily on bank loans as a source of finance. That tends to be particularly the case for small and medium-sized businesses. Perhaps reflecting that, responses to the *Credit Conditions Survey* suggest that small businesses' demand for bank finance has been stronger than larger companies' demand over the past two years.

Total bank lending to UK companies has weakened further. Four-quarter growth in the stock of sterling loans to PNFCs was -3.4% in 2009 Q3, down from a recent peak of 18.5% in 2006 Q4 (**Chart 1.15**). As well as a cyclical downturn in the demand for finance, that sharp slowdown reflects a lower supply of credit to UK companies over the past two years, as lenders tightened conditions and some foreign lenders left the market altogether. Foreign lenders had played a key role in the expansion of credit over 2006–07, but the stock of loans provided by these lenders has fallen markedly through 2009.

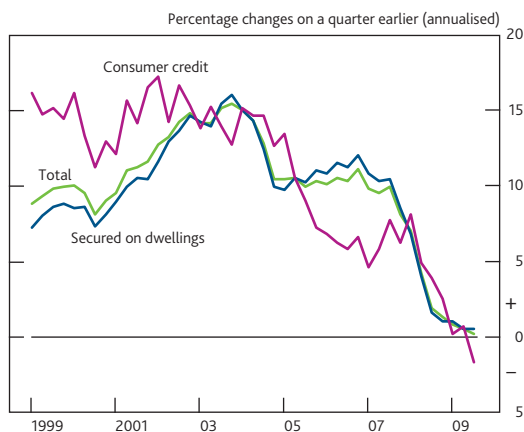
Bank credit conditions may have begun to stabilise. UK lenders responding to the Q3 *Credit Conditions Survey* reported a further increase in the overall availability of loans to PNFCs, although banks continued to tighten some of the non-price

**Chart 1.17** *Credit Conditions Survey*: overall corporate credit availability and non-price terms on loans to large PNFCs

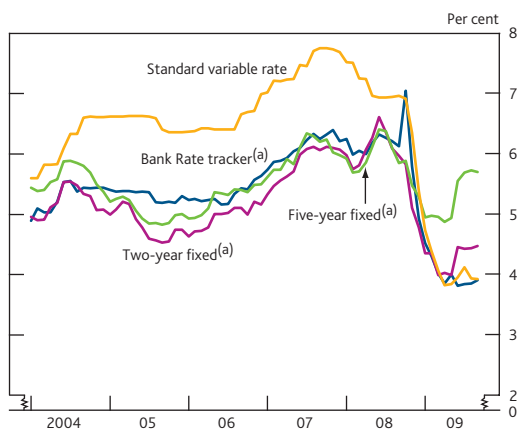


(a) Weighted responses of lenders. A positive balance indicates an increase in the availability of lending or an improvement in non-price terms over the past three months.

**Chart 1.18** Loans to individuals



**Chart 1.19** Average quoted mortgage rates



(a) On mortgages with a loan to value ratio of 75%.

terms on their lending (**Chart 1.17** shows responses on loans to large companies). Companies responding to the *Deloitte CFO Survey* reported that the attractiveness of bank borrowing has stopped falling in recent surveys (**Chart 1.16**).

A key issue is the extent to which continued tightness in credit conditions will hinder the economic recovery. Banks' balance sheet pressures may continue to restrict the supply of credit for some time. But the demand for credit may also remain subdued. For example, the large margin of spare capacity within companies may continue to depress demand for finance for investment. So, even as output recovers, bank lending may remain weak. Indeed, corporate lending was slow to recover as GDP picked up following the 1990s recession (**Chart 1.15**). But if companies' demand for credit were to pick up by more as the economy recovers, then they may find that their credit demand is not matched by an increase in credit supply. And that could constrain their ability to generate a faster recovery. Section 5 discusses the extent to which the recovery is likely to be hindered by weak credit supply.

## 1.5 Household credit conditions

Growth in loans to households remained subdued in Q3 (**Chart 1.18**), reflecting weakness in both secured and unsecured lending. Weak unsecured lending is likely to have weighed on the spending of some households. But in part weak unsecured lending may reflect subdued demand for loans; lenders responding to the latest *Credit Conditions Survey* reported that households' demand for unsecured loans continued to fall.

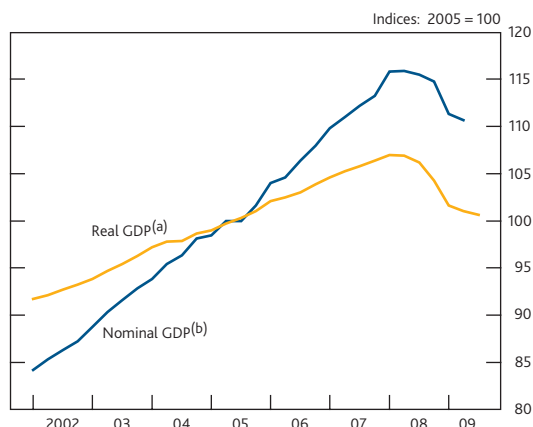
The weakness in secured lending mainly reflects the recent unusually low number of housing market transactions (Section 1.2). But the average value of new loans has been depressed by lower house prices, which mean that buyers now tend not to need as large a mortgage as those buying over the past few years. And more conservative loan to value ratios have also reduced the size of mortgages that buyers have been able to obtain.

Tight credit supply is likely to have contributed to the weakness in secured loan growth, but in recent months supply may have begun to stabilise. Only a small balance of lenders reported tighter conditions in the Q3 *Credit Conditions Survey*, compared with a marked reduction in mortgage availability and increased spreads over much of the past two years. And quoted mortgage rates have remained fairly steady in recent months (**Chart 1.19**), although variable rates and fixed rates remain significantly higher than Bank Rate and swap rates respectively. Lenders report that the demand for loans for house purchase has picked up. A key uncertainty for the outlook for the housing market is the extent to which that demand will be met.

## 2 Demand

UK GDP fell by 0.6% in 2009 Q2, a much smaller fall than recorded in the preceding two quarters. Business investment fell very sharply and consumer spending continued to decline, albeit at a slower rate. The pace of de-stocking moderated and net trade continued to boost growth. The ONS provisionally estimated that UK GDP fell by a further 0.4% in Q3. The world economy showed signs of recovery, with several Asian economies experiencing a robust rebound in growth. Indicators of global activity suggest that this recovery was sustained in the third quarter. Nonetheless, activity both at home and abroad remains significantly below pre-crisis levels.

**Chart 2.1** UK GDP



(a) Chained-volume measure at market prices. The latest observation is 2009 Q3.  
(b) At current market prices. The latest observation is 2009 Q2.

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

	Averages 1997–2007	2008		2009	
		Q3	Q4	Q1	Q2
Household consumption <sup>(b)</sup>	0.8	-0.4	-1.2	-1.5	-0.7
Government consumption	0.6	0.5	1.0	0.1	0.6
Investment	1.3	-3.6	-2.2	-7.3	-5.2
of which, business investment	1.4	-3.1	-1.3	-8.9	-10.2
of which, dwellings investment <sup>(c)</sup>	0.7	-6.0	-6.0	-9.5	-5.5
<b>Final domestic demand</b>	<b>0.8</b>	<b>-0.8</b>	<b>-0.9</b>	<b>-2.2</b>	<b>-1.1</b>
Change in inventories <sup>(d)(e)</sup>	0.0	-1.0	-0.9	-0.2	0.3
Alignment adjustment <sup>(e)</sup>	0.0	1.0	-0.4	-0.2	0.1
<b>Domestic demand</b>	<b>0.9</b>	<b>-0.8</b>	<b>-2.2</b>	<b>-2.6</b>	<b>-0.8</b>
'Economic' exports <sup>(f)</sup>	1.1	-0.9	-3.8	-7.1	-1.5
'Economic' imports <sup>(f)</sup>	1.5	-1.2	-5.4	-7.0	-2.2
Net trade <sup>(e)</sup>	-0.1	0.1	0.6	0.1	0.2
<b>Real GDP at market prices</b>	<b>0.7</b>	<b>-0.7</b>	<b>-1.8</b>	<b>-2.5</b>	<b>-0.6</b>

(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.

In the United Kingdom, GDP is estimated to have declined by 0.6% in 2009 Q2, a significantly smaller fall than recorded in the previous two quarters (Section 2.1). The ONS provisionally estimated that real GDP fell by a further 0.4% in Q3 (Section 3). Overall, the level of real demand is estimated to have fallen by about 6% over the past six quarters (Chart 2.1).

In many of the United Kingdom's major trading partners, GDP also declined in Q2, but several Asian economies experienced a robust rebound in growth. Indicators of near-term activity point to an improvement in global output. Section 2.2 discusses global demand and its implications for UK exports.

### 2.1 Domestic demand

Nominal GDP fell by 0.6% in Q2, leaving the level 4.5% lower than a year earlier. Real GDP also fell by 0.6%, reflecting lower household consumption and a further very marked drop in business investment (Table 2.A). Businesses continued to reduce their stocks in Q2, but at a slower pace than in Q1. And net trade boosted GDP growth for the sixth consecutive quarter in Q2, as exports declined less rapidly than imports.

#### Recent trends in household spending

Following sharp falls in 2008 Q4 and 2009 Q1, the pace of contraction of household spending moderated somewhat in the second quarter (Table 2.A). The fall in consumption in Q2 was, as in the previous two quarters, driven by lower consumption of services (Chart 2.2). That was partially offset by stronger spending on vehicles. That rise largely reflected the fillip provided by the car scrappage scheme (see the box on page 19), which appears to have boosted private new car registrations materially since its introduction in May.

The level of consumer spending has fallen by 3.7% since the start of the recession (Chart 2.3) and is much further below the level implied by a continuation of its pre-recession trend.

## The economic impact of car scrappage schemes

Over the past year, a number of governments have introduced car scrappage schemes. These schemes, which subsidise the cost of buying a new car for consumers who scrap their older vehicles, provide short-term support to the car industry and its supply chain, and may mitigate any loss of productive capacity in the industry. The UK scheme, introduced in May 2009 and extended in late September, enables consumers scrapping cars that are at least ten years old to claim a £2,000 discount off the price of a new car.

Although the broad objectives of the schemes are common, the precise details vary significantly from country to country (Table 1). This box sets out the economic impacts of car scrappage schemes in general, before briefly reviewing the impact on UK car production and demand.

**Table 1** Car scrappage schemes in selected countries

	United Kingdom	United States	Germany	France
Maximum incentive (£)(a)	2,000	2,700	2,300	900
Maximum cost to government (£ millions)(b)	400	1,830	4,530	350
Maximum cost to government (per cent of nominal 2008 GDP)	0.03	0.02	0.20	0.02
Age of eligible vehicles	≥10 years	<25 years	≥10 years	≥10 years
Date started	18 May 09	1 July 09	14 Jan. 09	4 Dec. 08
Expiry date(c)	28 Feb. 10	24 Aug. 09	2 Sep. 09	31 Dec. 09
Percentage increase in car registrations(d)	52	32	40	9

Sources: Bank of England, national sources, Society of Motor Manufacturers and Traders (SMMT), Thomson Datastream and Bank calculations.

(a) Rounded to the nearest £100. Based on the average exchange rates in the fifteen working days to 4 November 2009.

(b) Rounded to the nearest £10 million. Based on the average exchange rates in the fifteen working days to 4 November 2009.

(c) Ongoing schemes may expire earlier, if the funds set aside by the government to finance the scheme are exhausted.

(d) Average number of monthly car registrations during the scheme, relative to the average number in the three months preceding its introduction. The UK data are based on private car registrations. The UK and German registrations data have been seasonally adjusted by the Bank of England.

## The economic impact of car scrappage schemes

The scrappage schemes provide a temporary boost to demand for new cars, with demand likely to fall back once the schemes expire. In addition, such schemes cannot permanently raise the level of spending, but can only encourage consumers to bring spending forward. So higher demand for cars now will be offset by lower demand in the future. That offset will depend on how long customers would have continued to run their existing cars in the scheme's absence, and so could be spread over a relatively long period of time.

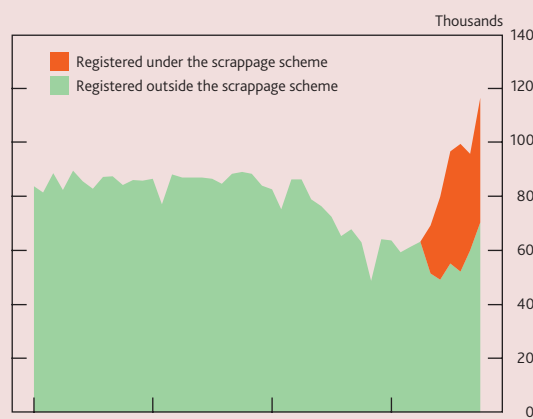
In addition to the extra household demand for cars that the schemes generate, a number of other factors will determine

the overall economic impact of the schemes. First, because households still have to fund much of the purchase price of the vehicle themselves, they may spend less on other goods and services, reducing the overall boost to consumption. Second, some of the rise in demand for cars will be met from stocks rather than from new production. Third, some of the domestic demand generated by the schemes will be met from imports, rather than domestic production. But, at the same time, domestic producers may benefit from the higher export demand generated by other countries' schemes.

## Recent trends in UK car production and demand

Demand for UK-produced cars is likely to have been boosted by scrappage schemes at home and abroad. UK household spending on vehicles rose by 6% in Q2. Private new car registrations increased by 38% in Q3 and by a further 22% in October. Purchases under the scrappage scheme can account for a large part of those increases (Chart A). And higher registrations abroad may have supported export demand: between 2006 and 2008, around three quarters of UK-produced cars were exported and around 75% of those exports were to Europe.

**Chart A** Private new car registrations(a)



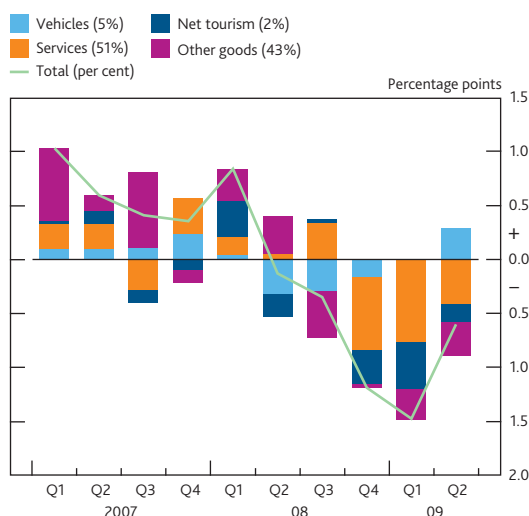
Sources: SMMT and Bank calculations.

(a) Seasonally adjusted by Bank staff. The seasonally adjusted scrappage scheme estimates are based on total seasonally adjusted private new car registrations, and the proportion of the non seasonally adjusted monthly total accounted for by the scrappage scheme.

But the impact of increased demand on UK production is uncertain. Some demand may have been met from stocks initially — the Bank's regional Agents report a significant reduction in car stocks — although production will rise as producers' stock overhang is worked off. Moreover, some domestic demand may have been met from imports; around 85% of cars registered in the United Kingdom between 2006 and 2008 were imported. But overall, it does appear that UK car production has been boosted to an extent; by September, output was around 25% higher than its trough in February, following a 45% fall in output over the preceding twelve months.

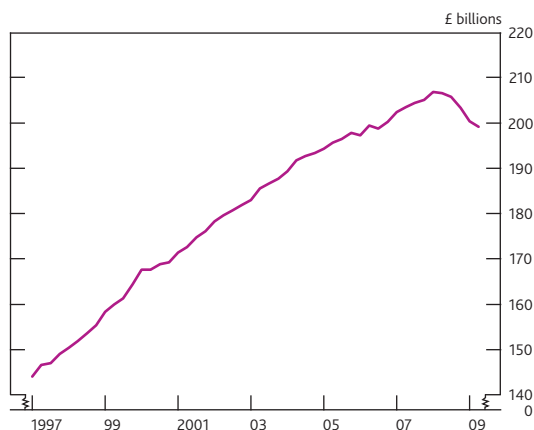


**Chart 2.2 Contributions to quarterly growth in consumer spending<sup>(a)</sup>**



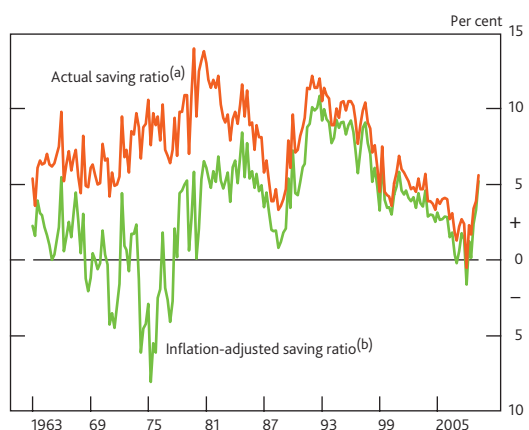
(a) Excluding non-profit institutions serving households. Figures in parentheses are shares in total real consumption in 2008. Shares do not sum to 100 due to rounding.

**Chart 2.3 Consumer spending<sup>(a)</sup>**



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

**Chart 2.4 Household saving ratio**



Sources: ONS and Bank calculations.

(a) Percentage of household post-tax income.

(b) Saving adjusted for the impact of inflation on the real value of assets and debt held by the household sector that are fixed in nominal terms. Percentage of inflation-adjusted post-tax income. For more details, see Davey, M (2001), 'Saving, wealth and consumption', *Bank of England Quarterly Bulletin*, Spring, pages 91–99.

As discussed below, the sharp fall in consumption reflects a number of factors.

### Explaining the fall in consumption

Some households may have reduced spending due to reductions in their income. Falls in employment (Section 3) and weaker nominal wage growth (Section 4) have led to a fall in households' nominal labour income over the past year. But that weakness has been offset by higher government benefit payments and lower taxes. Indeed, households' total post-tax income has risen a little over the past year. As a result, the fall in consumption has been associated with a rise in the household saving ratio (Chart 2.4). That suggests that other forces have also been pushing down aggregate consumption.

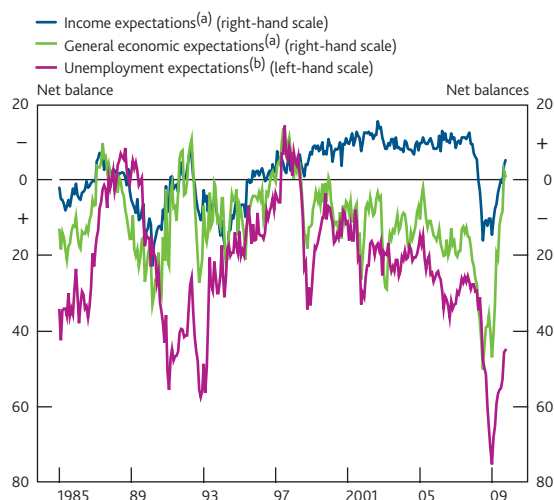
Some of the weakness in consumption is likely to reflect changes in households' expected income. Expected income may have been marked down in light of the recession, particularly if households expect future output, and hence income, to remain persistently below a level consistent with a continuation of their pre-recession trends. Some households may also have revised down their expected post-tax income in recognition that a significant fiscal consolidation is required.

Households may also have cut back their spending following the 10% fall in net financial wealth in the year to 2009 Q2. Despite the further rally in asset prices (Section 1), the level of net financial wealth in Q3 is likely to have remained significantly below its peak in mid-2007. That said, the extent to which lower financial wealth has depressed consumption is unclear. As discussed in the *August Report*, changes in financial asset prices have not typically been associated with significant movements in household saving in the past.

The fall in household consumption may also reflect a rise in precautionary savings. Some households may have cut back their spending in the face of greater perceived uncertainty about their future incomes. According to the 2009 NMG survey, around a quarter of households had increased, or were planning to increase, their savings. Respondents gave a number of reasons for this, but the most frequently cited was concerns about job security. In addition, nearly a fifth of the survey respondents had been put off spending due to concerns about the future availability of credit. Evidence from this survey on changes in the distribution of households' debt, and their ability to service it, is discussed in the box on pages 22–23.

It is likely that all these factors have borne down on consumption over the recent past. The level of spending is likely to be boosted over the rest of 2009 by the car scrappage scheme and the impending reversal of the December 2008 VAT cut, which will encourage households to bring forward planned expenditure. And survey responses, which show a marked improvement in households' expectations of both

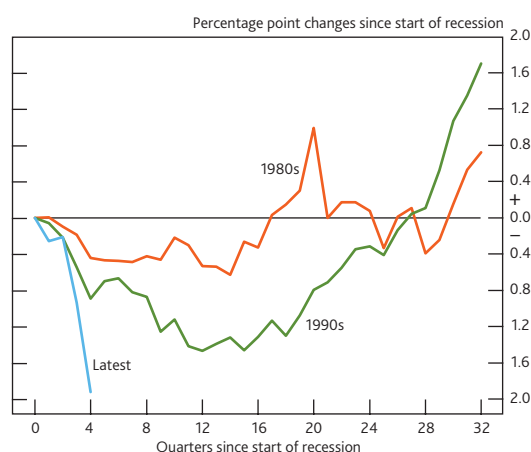
**Chart 2.5** Survey measures of economic, unemployment and income expectations



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

- (a) The questions ask how households expect their personal financial situation (income expectations) and the general economic situation (economic expectations) to change over the next twelve months.
- (b) The question asks how households expect unemployment to change over the next twelve months. The scale has been inverted.

**Chart 2.6** Business investment to GDP ratio<sup>(a)</sup>



- (a) Chained-volume measures. Recessions are defined as two consecutive quarters of falling output (at constant market prices) estimated using the latest data.

**Table 2.B** Surveys of investment intentions and business optimism<sup>(a)</sup>

Net percentage balances

	Averages	2008		2009	
	1999–2007	H1	H2	H1	Q3
<b>Business optimism</b>					
BCC <sup>(b)</sup>	49	31	-8	-6	24
CBI <sup>(c)</sup>	2	-30	-59	-22	21
<b>Investment intentions<sup>(d)</sup></b>					
BCC	14	7	-14	-23	-11
CBI	-7	-7	-44	-45	-13

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

- (a) Measures weight together sectoral surveys using shares in real business investment. BCC data are non seasonally adjusted.
- (b) Net percentage balance of companies who believe turnover will improve over the next twelve months.
- (c) Net percentage balance of companies who are more optimistic about the overall business situation.
- (d) Net percentage balances of companies who say that they have increased planned investment in plant and machinery over the past three months (BCC), or revised up planned investment in plant and machinery over the next twelve months (CBI).

their future incomes and the general economic situation since the start of the year (Chart 2.5), may also herald some stabilisation in consumption in coming quarters. There remain, however, risks to the near-term outlook for consumer spending. Although households' unemployment expectations have fallen back, their elevated level may be consistent with a further rise in precautionary savings. And high levels of debt may also lead households to save more, although the low level of Bank Rate should dampen this tendency. The prospects for household spending in the medium term are discussed in Section 5.

## Investment

Whole-economy investment fell for the fourth consecutive quarter in Q2, largely reflecting an estimated 10% fall in business investment. Falls of this magnitude are not unprecedented, but the combined six-monthly decline in business investment over 2009 H1 is by far the largest since quarterly records began in 1966. And, even allowing for the sharp fall in GDP, the cumulative fall in business investment appears large relative to previous recessions (Chart 2.6).

Much of the fall in business investment is likely to reflect companies' concerns about demand prospects. Businesses may expect the significantly lower level of output to persist, prompting cutbacks in investment spending. In addition, heightened uncertainty about future demand may have led some businesses to delay planned expenditure.

The restriction of external finance may have also served to amplify the usual cyclical response of investment to the fall in demand during this recession. And uncertainty about the future price and availability of credit may have led some businesses to hold additional buffers of cash or repay debt, at the expense of investment in new capacity.

A number of factors may support a recovery in near-term investment spending. Surveys of business confidence picked up strongly in Q3 (Table 2.B), while the low level of Bank Rate and three-month Libor have kept the cost of servicing variable-rate debts contained, boosting internal funds for many businesses. Surveys of investment intentions also picked up a little in Q3, although they remain well below their recent averages.

Weighing against that, credit conditions remain tight, and may continue to constrain investment. That constraint could become increasingly apparent if businesses revise up their investment plans. Averaging across the latest CBI surveys, the proportion of businesses reporting that the availability of external finance is likely to restrain investment over the next year rose to record highs, despite little change in corporate credit conditions (Section 1). And some businesses may defer or cancel investment in order to continue to pay down debt — according to the *Deloitte CFO Survey*, a net balance of

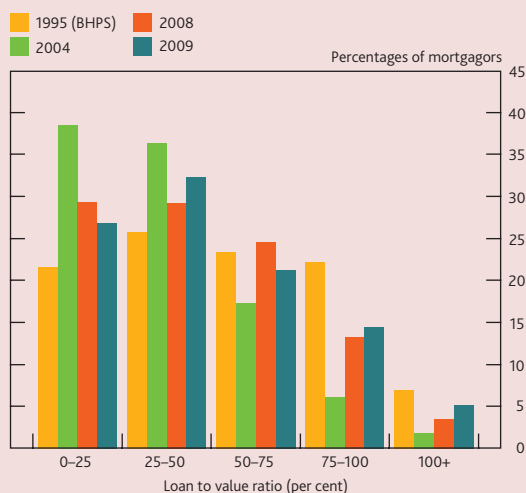
## The distribution of household debt and repayment difficulties

The prospects for household spending depend, in part, on the extent to which households reduce borrowing and pay down debt in order to strengthen their balance sheets. This box looks at the distribution of households' debt, and their ability to service it, using the latest annual survey carried out for the Bank by NMG Research.<sup>(1)</sup> Overall, there has been a further small increase in the proportion of households reporting high loan to value (LTV) ratios on their mortgages, and a sharp rise in the proportion of mortgagors reporting difficulties servicing their debts.

### The distribution of household debt

Around 75% of all household debt is secured against people's homes. According to the 2009 NMG survey, the distribution of LTV ratios was broadly similar to that in the 2008 survey. But the proportion of respondents with LTV ratios over 75% picked up further, and is markedly higher than reported five years ago (**Chart A**). In particular, the incidence of negative equity (where the value of a household's secured debt exceeds the value of their home) is reported to have increased, although it remains below its mid-1990s' level.<sup>(2)</sup>

**Chart A** Distribution of loan to value ratios on mortgagors' outstanding secured debt<sup>(a)</sup>



Sources: British Household Panel Survey (BHPS), NMG Research survey and Bank calculations.

(a) Mortgage debt from the BHPS captures mortgage debt owed by households on all properties they own. Mortgage debt from the NMG survey captures only mortgage debt owed on households' primary residences. Outstanding mortgages and property values used in these calculations are self-reported.

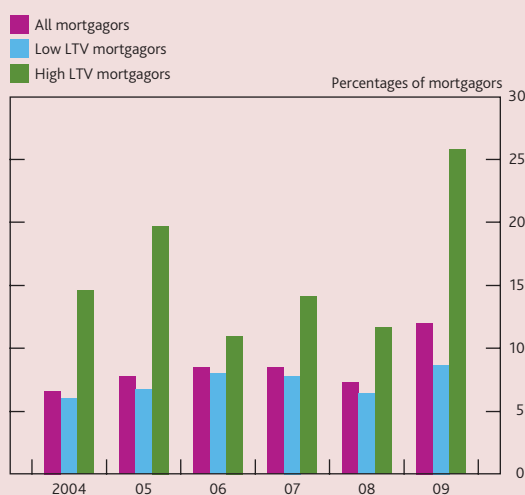
### Households' repayment difficulties

The degree to which households want to strengthen their balance sheets will depend, in part, on their ability to service their debts. That, in turn, depends not only on debt holdings but also on household income and the cost of servicing the debt. The rise in unemployment and weakening in wage

growth have meant that some households have suffered a loss of income over the past year, making it harder for them to meet their obligations. Indeed, around a quarter of households who reported problems keeping up with bills and credit commitments attributed their difficulties to unemployment, redundancy or loss of income. Set against that, cuts in Bank Rate since October 2008 have alleviated the debt-servicing burden for those households with variable-rate debts.

Taking these factors together, the burden of unsecured debts is reported to have lessened from a peak in 2008. But the proportion of mortgagors reporting problems paying for their accommodation has risen, particularly among more highly indebted households — around a quarter of borrowers with LTV ratios above 75% reported payment problems, up from around a tenth in the 2008 survey (**Chart B**).

**Chart B** Payment difficulties among mortgagors<sup>(a)</sup>



Sources: NMG Research survey and Bank calculations.

(a) Low and high LTV mortgagors are defined as those with LTV ratios less than and greater than 75% respectively. The magenta bars show the proportion of mortgagors reporting payment problems who also reported both their outstanding mortgage and their house value.

**Table 1** Mortgage arrears and repossessions

			Series high	2007	2008		2009	
				H2	H1	H2	Q1	Q2
Mortgage arrears <sup>(a)</sup>								
Three to six months	1.82	(1994 H1) <sup>(b)</sup>	0.60	0.73	1.01	1.11	1.05	
Six to twelve months	2.07	(1992 H2)	0.34	0.41	0.62	0.82	0.85	
More than twelve months	1.58	(1993 H1)	0.13	0.15	0.25	0.46	0.54	
By more than 2.5% of outstanding balance	4.12	(1995 H1)	1.08	1.19	1.57	1.84	1.85	
Repossessions <sup>(c)</sup>	0.40	(1991 H2)	0.11	0.16	0.18	0.21	0.22	

Source: Council of Mortgage Lenders.

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

(b) Earliest observation.

(c) Flow of repossessions during each period, as a percentage of outstanding mortgages. The quarterly observations are based on the flow of repossessions over the preceding two quarters, and the stock of outstanding mortgages in that quarter.



The rise in payment difficulties among mortgagors is also consistent with aggregate data on mortgage arrears and repossessions, which show a rise over the past year (Table 1). But household arrears remain some way below their early 1990s' peak, and the pace of increase moderated in 2009 Q2.

Overall, the 2009 NMG survey suggests that there has been a further small increase in the proportion of mortgagors reporting high LTV ratios, and a marked rise in the proportion

of mortgagors reporting difficulties servicing their debts. The MPC judges that concerns about balance sheets will continue to weigh on spending in the medium term (Section 5).

- (1) The survey was carried out between 25 September and 1 October, and sampled 1,933 people. The results have been weighted to help correct for any bias in the sample using nationally defined profiles for age, social grade, region, working status and housing tenure.
- (2) For a more detailed discussion of estimates of negative equity, see Hellebrandt, T, Kavar, S and Waldron, M (2009), 'The economics and estimation of negative equity', *Bank of England Quarterly Bulletin*, Vol. 49, No. 2, pages 110–21.

respondents believed that corporate balance sheets remained overleveraged in Q3.

Moreover, some specific forms of investment may be susceptible to further cutbacks. For example, investment in buildings — around a third of business investment — has accounted for only a small part of the total fall in business investment to date. But the halving in new commercial construction orders in the year to August may feed through into weaker buildings investment over time. Overall, business investment is likely to have fallen further in Q3 and to remain subdued in the near term.

### Stockbuilding

Stocks fell further in Q2, following the record declines in the preceding two quarters. But the pace of de-stocking moderated, so that stockbuilding contributed 0.3 percentage points to Q2 GDP growth — the first positive contribution since 2008 Q1. The pace of de-stocking is likely to ease further over the remainder of 2009, providing a further boost to GDP growth.

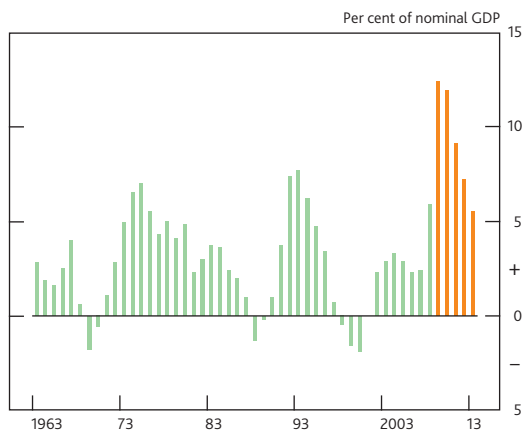
### Government spending

Under its usual convention, the MPC's projections are conditioned on the plans set out in the April Budget. Those plans embody a significant rise in public sector net borrowing (Chart 2.7), and a marked rise in the ratio of public sector debt to GDP. Stabilising that ratio will require some combination of a reduction in spending and a rise in taxation, as shares of GDP (Section 5).

### Imports

UK imports have fallen by 15% over the year to 2009 Q2. In part, that reflects lower UK demand, and in particular weaker investment and stockbuilding, which are highly import-intensive. But it also reflects the past depreciation of sterling and the associated rise in import prices, which have encouraged households and businesses to switch expenditure away from imports, and to purchase domestically produced goods and services instead. To date, the fall in imports appears broadly in line with the changing mix of spending (Chart 2.8). But it is likely that the sharp fall in demand masks, to some degree, the more gradual impact of the exchange rate on UK imports.

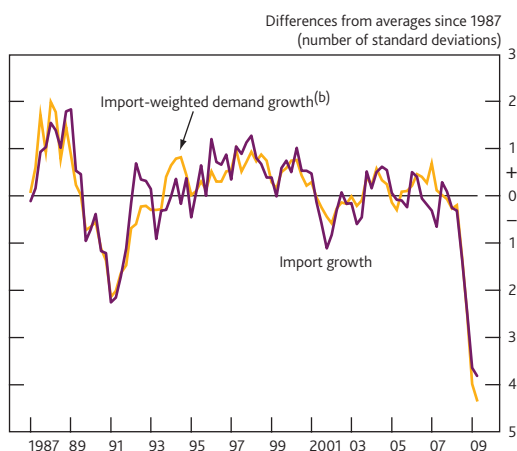
**Chart 2.7** Public sector net borrowing<sup>(a)</sup>



Source: HM Treasury.

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

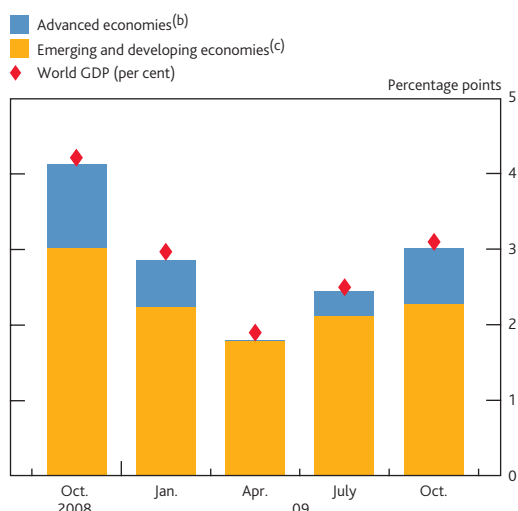
**Chart 2.8** Four-quarter growth in imports and import-weighted demand<sup>(a)</sup>



Sources: ONS and Bank calculations.

- (a) Excluding the estimated impact of MTIC fraud.
- (b) Import-weighted demand is calculated by weighting household consumption (including non-profit institutions serving households), whole-economy investment (excluding valuables), government spending, stockbuilding (excluding the alignment adjustment) and exports by their respective import intensities. The import intensities are estimated using the 1995 ONS Input-Output Analytical Tables.

**Chart 2.9** Contributions to successive IMF forecasts for world GDP growth in 2010<sup>(a)</sup>



Source: IMF.

(a) The contributions may not sum to the total due to rounding, and are estimated using shares of world GDP in 2008. The IMF forecasts are taken from the relevant *World Economic Outlooks (WEOs)* and the *WEO Updates*.

(b) Including the United States, the euro area, Japan and the United Kingdom.

(c) Including Brazil, China, India and Russia.

**Table 2.C** GDP in selected advanced economies<sup>(a)</sup>

Percentage changes on a quarter earlier

	Averages		2009			Change in GDP since 2008 H1 (per cent)
	2008 H1	2008 H2	Q1	Q2	Q3	
Euro area (44.2)	0.3	-1.1	-2.5	-0.2	n.a.	-4.9
of which, Germany (9.4)	0.5	-1.4	-3.5	0.3	n.a.	-6.2
of which, France (6.6)	0.1	-0.9	-1.4	0.3	n.a.	-3.0
United States (17.0)	0.1	-1.0	-1.6	-0.2	0.9	-2.8
Japan (2.1)	0.1	-2.4	-3.3	0.6	n.a.	-7.6
Memo: United Kingdom	0.3	-1.3	-2.5	-0.6	-0.4	-5.9

Sources: Bureau of Economic Analysis, Eurostat, Japanese Cabinet Office, ONS and Bank calculations.

(a) The figures in parentheses show the shares of UK exports accounted for by each country or region in 2008.

**Table 2.D** GDP in selected Asian economies<sup>(a)</sup>

Percentage changes on a quarter earlier<sup>(b)</sup>

	Averages	2008		2009		
	1997–2007	Q3	Q4	Q1	Q2	Q3
China <sup>(c)</sup> (1.8)	9.6	9.0	6.8	6.1	7.9	8.9
Singapore (1.5)	1.4	-0.5	-4.4	-3.2	4.8	n.a.
South Korea <sup>(d)</sup> (0.9)	1.2	0.2	-5.1	0.1	2.6	2.9
Taiwan (0.4)	1.1	-0.7	-7.6	-2.6	4.8	n.a.
Thailand (0.3)	0.8	0.6	-5.9	-1.8	2.3	n.a.
Philippines (0.1)	1.1	0.7	0.3	-2.1	2.4	n.a.

Sources: ONS, Thomson Datastream and Bank calculations.

(a) The figures in parentheses show the shares of UK exports accounted for by each country in 2008.

(b) Unless otherwise stated.

(c) Chinese data show annual GDP growth. Average is between 2000 Q1–2007 Q4. The data are non seasonally adjusted.

(d) Average is between 2000 Q2–2007 Q4.

## 2.2 The international economy

The world economy showed signs of recovery in Q2, following the abrupt falls in 2008 Q4 and 2009 Q1. Survey measures of activity suggest that the economic recovery is likely to have been sustained in Q3. And the IMF has revised up its forecasts for 2010 GDP growth across both advanced and emerging economies markedly since April (**Chart 2.9**). This subsection discusses recent global GDP data, trends in world trade, and the implications for UK exports.

### Recent developments in global growth

Activity in the major advanced economies remains significantly below pre-crisis levels (**Table 2.C**). In the euro area, GDP fell by 0.2% in Q2, a significantly smaller fall than recorded in the preceding two quarters. That was driven by a pickup in net trade, and a less marked decline in domestic demand. Growth in the euro area is likely to have been positive in Q3. But fiscal stimuli, such as the car scrappage schemes introduced by a number of euro-area countries (see the box on page 19), may have played a role in boosting demand. And despite marked differences across individual labour markets, overall euro-area unemployment continued to rise in the three months to September. That is likely to restrain consumer spending in the near term.

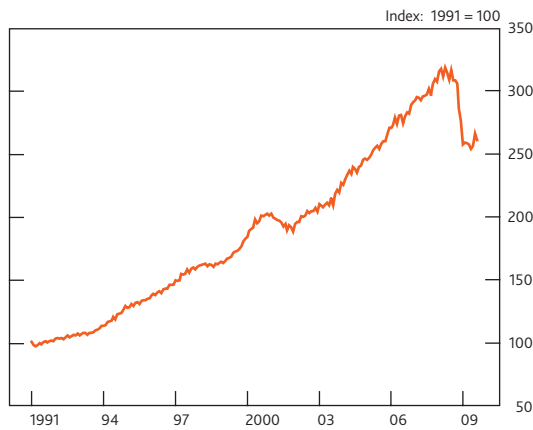
US GDP also fell by 0.2% in Q2, but is estimated to have grown by 0.9% in Q3, reflecting a strong rise in household spending. As in the euro area, some of the boost to spending is likely to reflect the influence of transitory factors, such as the fiscal injections earlier in the year and the US car scrappage scheme (see the box on page 19). And the continued fall in employment is likely to hold back household spending.

In Asia, many economies registered strong rebounds in growth in Q2 (**Table 2.D**). Much of that growth appeared to reflect stronger domestic demand. For example, the growth in South Korean output in Q2 and Q3 can be mainly accounted for by stronger private domestic demand. And Chinese fixed asset investment spending between January and September was around 30% stronger than over the equivalent period in 2008.

The combination of stronger domestic spending in Asia and weaker domestic spending in the United States led to a further narrowing of global imbalances in 2009 Q2. But some of this rebalancing may prove cyclical. Any re-emergence of the pre-crisis pattern of imbalances poses risks to the sustainability of the economic recovery.

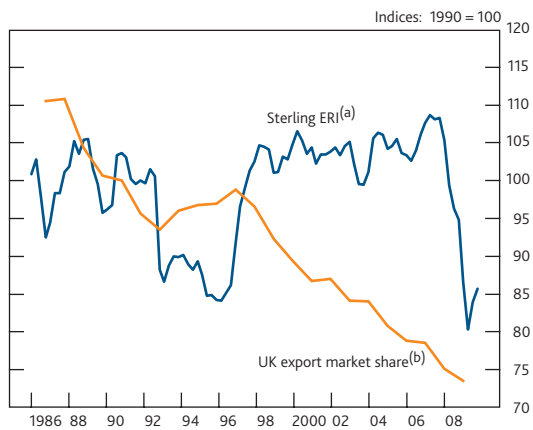
### World trade and UK exports

World trade in goods fell slightly in Q2 but, based on data for July and August, rose by close to 3% in Q3. The level of global goods trade, however, remained well below its pre-crisis peak (**Chart 2.10**).

**Chart 2.10** World trade in goods<sup>(a)</sup>

Source: CPB Netherlands Bureau for Economic Policy Analysis.

(a) Volume measure.

**Chart 2.11** UK export market share and the sterling ERI

Sources: Bank of England, IMF, ONS and Bank calculations.

(a) Quarterly averages of daily data. The latest observation is 2009 Q3.

(b) Annual data. The latest observation is 2008. The volume of UK exports (excluding the estimated impact of MTIC fraud) divided by the volume of UK-weighted world imports. World import volumes data are weighted together based on the destination of UK exports in 2008, in nominal terms.

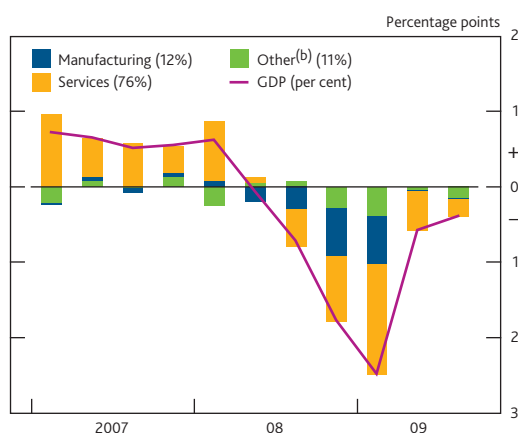
Weaker demand for imports worldwide will reduce demand for UK exports. But that is likely to be offset, to some degree, by the impact of the 25% fall in the sterling ERI since the middle of 2007. Since then, UK export prices have fallen by around 10% relative to the sterling price of exports from the other major advanced economies, boosting UK exporters' competitiveness in foreign markets. And although some exporters have used the depreciation to boost their margins rather than reduce their foreign currency prices, that should eventually boost the supply of UK exports. So over time, the United Kingdom's export market share — the volume of UK exports as a share of UK-weighted world import volumes — which has been declining for many years, may begin to rise, as it did following a rather smaller sterling depreciation in 1992 (Chart 2.11).

Reflecting the net impact of these opposing forces, UK exports continued to decline in Q2, albeit at a much slower rate than in the preceding two quarters. More recently, contacts of the Bank's regional Agents have noted a modest recovery in export demand, particularly from Asian economies. Surveys of export orders have picked up a little in Q3, and, according to the CBI, optimism about manufacturing export prospects over the next year rose to its highest level since 1995. Monthly trade data for July and August also suggest that goods export volumes picked up in Q3. And there are already signs that the UK export market share may have been boosted by the decline in sterling: the cumulative fall in total world trade since the start of the recession is slightly larger than the cumulative fall in UK exports over that period. Section 5 considers the outlook for UK exports.

## 3 Output and supply

Output was estimated to have fallen by 0.4% in 2009 Q3, leaving it about 6% below its peak. Business surveys suggested that growth picked up during the second half of the year. The LFS unemployment rate rose to nearly 8%, but the pace of weakening in labour market conditions appeared to have moderated. There remained a substantial margin of spare capacity in the economy.

**Chart 3.1** Contributions to quarterly GDP growth<sup>(a)</sup>



(a) Chained-volume measures. The GDP series is at market prices. Services and manufacturing are at basic prices. 'Other' is calculated as a residual. The figures in parentheses show shares in the level of nominal value added in 2007. Shares do not sum to 100 due to rounding. The chart shows data consistent with the Q3 preliminary GDP release. Index of production data were subsequently revised.

(b) Includes agriculture, mining and quarrying, electricity, gas and water supply, and construction.

**Table 3.A** Survey indicators of output growth<sup>(a)</sup>

	Averages	2009			
	since 1997	Q1	Q2	Q3	Oct.
<b>Services</b>					
BCC(b)	22	-23	-16	-1	n.a.
CBI business and professional services(c)	13	-65	-43	6	n.a.
CBI consumer services(c)	0	-34	-53	-13	n.a.
CBI distributive trades(d)	9	-55	-19	-18	-1
CBI/PwC financial services(c)	14	-47	-28	7	n.a.
CIPS/Markit(e)	55.0	43.7	50.7	54.2	56.9
<b>Manufacturing</b>					
BCC(b)	8	-55	-37	-10	n.a.
CBJ(c)	-5	-53	-31	-8	n.a.
CIPS/Markit(e)	52.0	37.4	48.3	53.7	57.0

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

(a) Dates refer to the period in which the survey was conducted.

(b) Percentage balance of respondents reporting domestic sales to be 'up' relative to 'down' over the past three months. The data are non seasonally adjusted.

(c) Percentage balance of respondents reporting the volume of output/business to be 'up' relative to 'down' over the past three months. The CBI business and professional, and consumer services averages are since 1998 Q4.

(d) Percentage balance of respondents reporting the volume of sales to be 'up' relative to 'down' over the past month compared with same period a year earlier.

(e) A reading above 50 indicates increasing business activity/output this month relative to the situation one month ago. Quarterly data are averages of monthly indices.

The degree of slack in the economy — the gap between output and supply capacity — is an important influence on inflation. The level of UK output has fallen sharply since the start of the recession (Section 3.1), but some of that is likely to have been associated with a fall in companies' supply capacity (Section 3.2). Employment has fallen, but by considerably less than output to date (Section 3.3). Although the labour force participation rate has so far held up, the substantial rise in unemployment may impair the potential supply of labour (Section 3.4). Notwithstanding a likely reduction in overall supply capacity, there is a significant margin of slack in the labour market and within companies (Section 3.5).

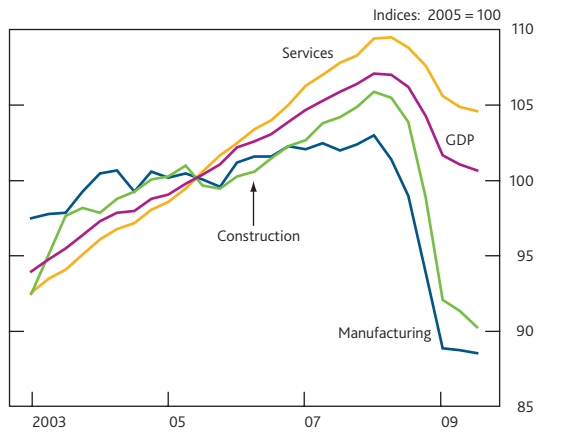
### 3.1 Output

The preliminary estimate of 2009 Q3 GDP showed a 0.4% decline in output (Chart 3.1). That was a significantly weaker outcome than the MPC had expected at the time of the August Report. According to the preliminary release, none of the published sectoral indices recorded a rise in output in Q3.

Initial estimates of GDP growth are prone to revision as more data become available. Evidence from business surveys in Q3 is consistent with a somewhat stronger outturn for GDP growth than suggested by the preliminary estimate. For example, CIPS/Markit indices suggested a small rise in output, while activity balances from CBI surveys, taken together, pointed to a broadly flat outturn (Table 3.A). Based on such evidence from business surveys, and the pattern of past revisions, the MPC judges that Q3 GDP growth is likely to be revised up a little in due course.

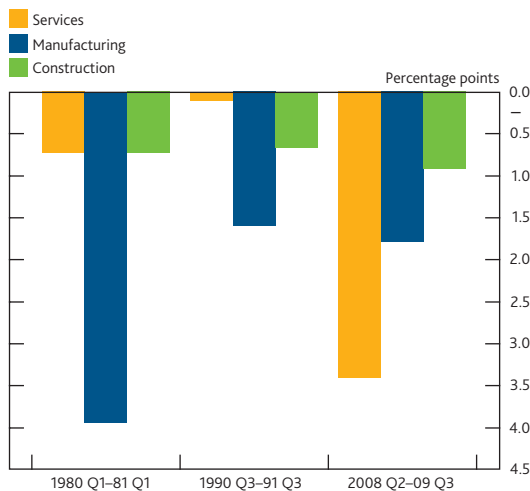
Regardless of the precise extent of the fall in Q3, however, the decline in output during the recession has been large. According to the ONS, output was 5.9% below its pre-recession peak in 2009 Q3 (Chart 3.2). The manufacturing and construction sectors have experienced the largest output falls. The decline in manufacturing output has been broad-based across subsectors, reflecting weakness in

**Chart 3.2** GDP and sectoral output<sup>(a)</sup>



(a) Chained-volume measures. GDP is at market prices. Indices of sectoral output are at basic prices.

**Chart 3.3** Sectoral contributions to the percentage change in GDP during recessions<sup>(a)</sup>



(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. Contributions are based on sectoral indices at basic prices and are calculated using sectoral shares in the level of nominal value added in 1979, 1990 and 2005, and are approximations for the 1980s and 1990s recessions.

both domestic and export demand (Section 2). The sharp fall in construction output has been driven by the past weakness in residential and commercial real estate markets (Section 1).

Compared with the previous two UK recessions, the service sector has made an unusually large contribution to the fall in output (**Chart 3.3**). Within services, the business services and finance sector, which makes up around 40% of services output, has made the largest negative contribution. That could reflect both the direct impact of the financial crisis and spillover effects to activities that are closely related to financial services. For example, although the estimated output of the financial intermediation sector itself has been broadly unchanged since the recession began, the output of 'other business services' — including legal, accountancy and consultancy services — is estimated to have been very weak.

Business surveys point to a rise in output in Q4; the CIPS/Markit activity indices for the manufacturing and service sectors increased fairly sharply in October (**Table 3.A**). Output prospects beyond Q4, where survey indicators provide little guidance, are discussed in Section 5.

### 3.2 Companies' supply capacity

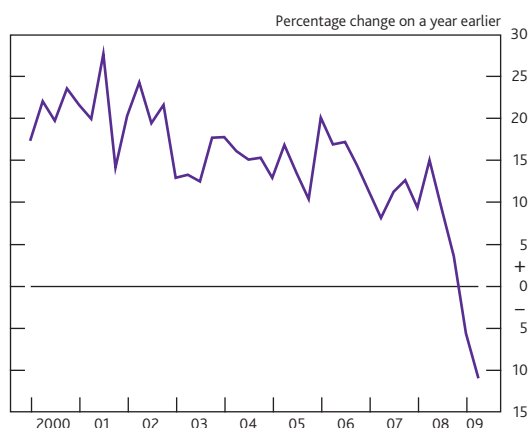
The evolution of potential supply will determine the extent to which the fall in output is reflected in higher spare capacity (Section 3.5) and therefore in downward pressure on inflation. This section discusses factors likely to influence companies' supply capacity.

Capital stock growth, and hence also the growth of potential supply, will have fallen as a result of the sharp fall in investment during the recession (Section 2). Although business investment flows are small relative to the size of the non-residential capital stock, the unprecedented decline in business investment during the first half of this year will materially weaken capital stock growth.

To the extent that companies have cut back on the least productive areas of investment, however, the impact on supply may be somewhat less than a simple mapping from investment to the capital stock would suggest. More generally, the recession may encourage companies to restructure towards more productive activities.

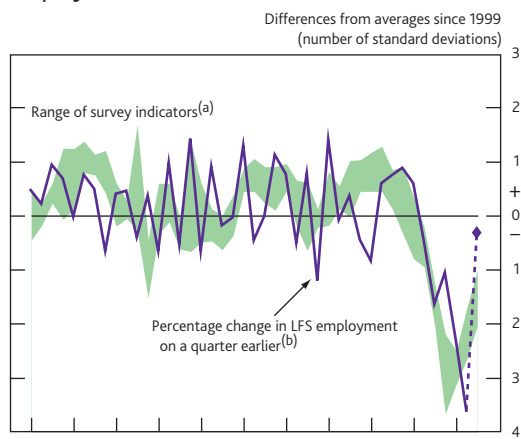
The financial crisis has made it more difficult for companies to fund their day-to-day business activities and may have, therefore, constrained their effective supply capacity. The proportion of companies in the *CBI Industrial Trends Survey* reporting that access to finance was limiting output remained well above its historical average in 2009 Q3. That may reflect difficulties in accessing trade credit.<sup>(1)</sup> According to reports

(1) For more details on trade credit, see the box on page 15 of the February 2009 *Report*.

**Chart 3.4 Domestic invoice discounting<sup>(a)</sup>**

Source: Asset Based Finance Association.

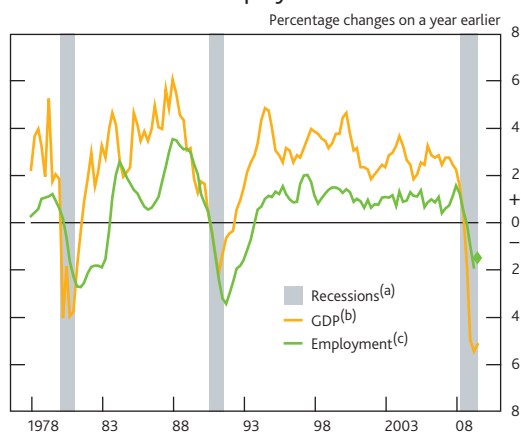
(a) Domestic invoice discounting data are based on client sales figures and are non seasonally adjusted.

**Chart 3.5 Surveys of employment intentions and LFS employment**

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

(a) Measures included are based on employment intentions balances from the Bank's regional Agents (manufacturing and services), the BCC (manufacturing and services) and the CBI (manufacturing, financial services, business/consumer services) weighted by shares in employment. Manpower data are also included and cover the whole economy. The BCC data are non seasonally adjusted.

(b) The diamond is an estimate for 2009 Q3 based on employment data for the three months to August.

**Chart 3.6 GDP and employment**

Source: ONS (including the Labour Force Survey).

(a) Recessions are defined as in Chart 3.3.

(b) Chained-volume measure at market prices.

(c) The diamond is an estimate for 2009 Q3 based on employment data for the three months to August.

from the Bank's regional Agents, some companies are still struggling to insure against non-payment by customers, a factor that may be leading some to turn away orders. In addition, some companies may be finding it difficult to borrow against their outstanding invoices. The value of cash raised in this way has fallen (**Chart 3.4**), although this may in part reflect weaker demand for finance as turnover has fallen, as well as reduced availability of finance.

Overall, it is likely that some of the weakness in the level of activity over the past 18 months has resulted in a fall in companies' supply capacity, due both to lower capital stock growth and the restricted supply of credit. It is difficult, however, to gauge the scale of the fall in supply and the extent to which it will persist. Section 5 discusses the outlook for supply.

### 3.3 Labour demand

#### Labour market adjustment

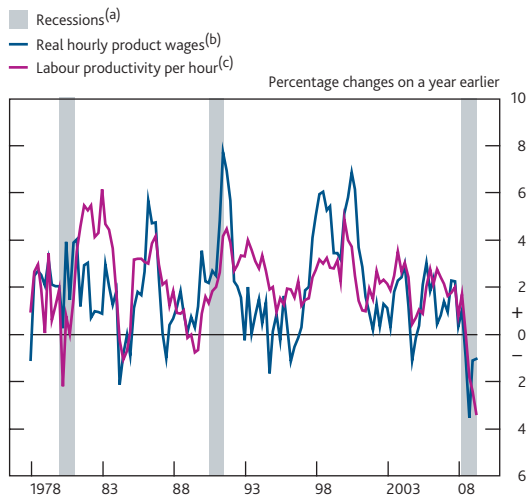
Employment is estimated to have fallen by about 2% since the start of the recession. There are, however, signs that the pace of decline moderated in Q3. LFS employment fell by 0.2% in the three months to August compared with the three months to May, a much smaller fall than the decline of 0.9% in the previous non-overlapping quarter. And a range of surveys of employment intentions also point to an easing in the rate of decline (**Chart 3.5**).

As discussed in the *August Report*, the fall in employment has been smaller than those at similar points in previous recessions, even though the cumulative decline in GDP has been bigger (**Chart 3.6**). One consequence of that is that there has been a much larger fall in labour productivity per person employed than at the same point in previous recessions.

Some of the weakness in output per person employed could reflect the fact that people have been working fewer hours. Whole-economy average hours fell sharply in the three months to August. The weakness of the latest data is consistent with reports from the Bank's regional Agents of widespread use of short-time working arrangements. The fall in average hours during this recession is broadly similar to the declines observed during previous recessions. Taking lower hours and employment together, however, labour productivity per hour has weakened by more than in previous recessions (**Chart 3.7**).

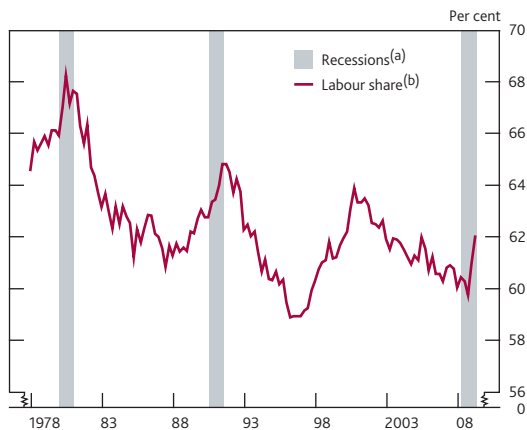
That decline in productivity has been associated with upward pressure on companies' costs and downward pressure on their profitability. The cost of labour relative to the price that companies receive for their output — the real product wage — fell by 1.1% in 2009 Q2 compared with a year earlier (**Chart 3.7**). But real wages have not kept pace with the



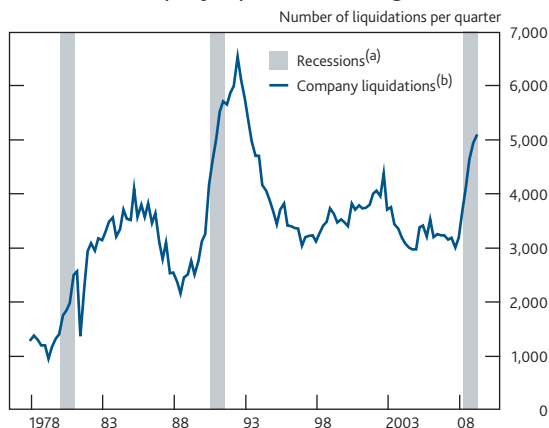
**Chart 3.7** Real hourly product wages and labour productivity per hour

Sources: ONS and Bank calculations.

- (a) Recessions are defined as in **Chart 3.3**.  
 (b) Total compensation per hour worked divided by the gross value added deflator at factor cost. Data are to 2009 Q2.  
 (c) Gross value added at constant prices divided by total hours worked. Data are to 2009 Q2.

**Chart 3.8** Labour share of income

- (a) Recessions are defined as in **Chart 3.3**.  
 (b) The labour share is based on whole-economy compensation of employees divided by nominal gross value added at factor cost. Data are to 2009 Q2.

**Chart 3.9** Company liquidations in England and Wales

Sources: The Insolvency Service and ONS.

- (a) Recessions are defined as in **Chart 3.3**.  
 (b) Data are to 2009 Q2. Changes to legislation, data sources and methods of compilation mean the statistics should not be treated as a continuous and consistent time series. Since the Enterprise Act 2002, a number of administrations have subsequently converted to creditors' voluntary liquidations. These liquidations are excluded from the headline figures published by The Insolvency Service and are excluded from the chart.

decline in labour productivity, particularly during the first half of 2009. As a result, the share of income in the economy accounted for by the compensation of employees, the labour share, has risen (**Chart 3.8**) and the profit share has correspondingly fallen.

Given the offsetting effects of weaker real wages and somewhat stronger employment, the increase in the aggregate labour share has been broadly similar to the increases observed during previous recessions (**Chart 3.8**). In those previous episodes, the labour share started to fall back soon after output stopped declining and, within that, employment continued to decline for some time (**Chart 3.6**).

Further adjustment in the labour market will probably be required if companies wish to rebuild the profit share, and reduce the labour share. But the extent to which this adjustment is split between employment and real wages will depend crucially on the factors that are behind the recent falls in these, and whether they are likely to persist. The next subsection examines these factors and their implications for employment. Other factors affecting wages are discussed in more detail in Section 4.

### Factors affecting employment

One explanation for why the fall in employment during the recession has been relatively small is that employees have been willing to work for lower pay. That may reflect employees' fear of being made unemployed. For example, reports from the Bank's regional Agents suggest that some companies have, following discussions with employees, made an across-the-board pay cut in order to limit reductions in headcount. Employees' willingness to work for lower pay may also reflect worries about their prospective pension income (Section 3.4). The extent to which these factors continue to put downward pressure on real wages, and hence on the labour share, will be an important determinant of businesses' future employment decisions.

Another possible explanation is that the falls in demand (Section 2) have not yet been reflected fully in employment outturns. For example, companies that find it costly to fire and hire employees may have chosen to hoard labour on the assumption that the slowdown would be relatively short-lived. As discussed earlier, surveys of employment intentions do not suggest that companies are likely to make large reductions to their workforce in the near term. But there remains a risk of a larger retrenchment, if demand turns out to be weaker than companies expect in coming quarters.

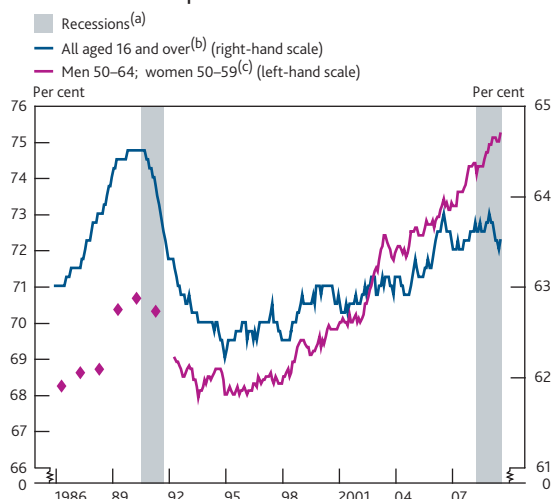
Another factor that may have enabled businesses to hold on to employees is the extent to which they have received support from the government and from the banks. For example, HMRC's Business Payment Support Service has facilitated the deferral of some tax payments. And some banks have shown

**Chart 3.10 Unemployment rate**

Source: Labour Force Survey.

(a) Recessions are defined as in Chart 3.3.

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

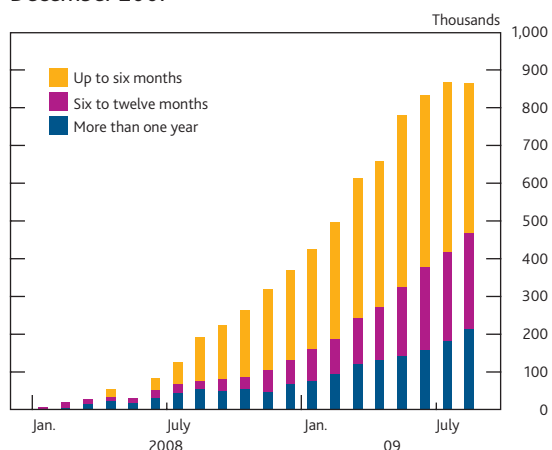
**Chart 3.11 Participation rates**

Source: Labour Force Survey.

(a) Recessions are defined as in Chart 3.3.

(b) Percentage of the 16+ population. Rolling three-month measure.

(c) The observations before 1992 are based on non seasonally adjusted, annual LFS microdata. The annual observations correspond to the March-May quarter.

**Chart 3.12 Change in unemployment by duration since December 2007<sup>(a)</sup>**

Source: Labour Force Survey.

(a) Rolling three-month measure.

forbearance to companies that have breached loan covenants but have continued to make interest payments (Section 1). That support could also explain why the number of company liquidations (Chart 3.9) has not grown as much as might have been expected given the scale of the fall in output. Looking ahead, the path of employment and insolvencies may partly depend on the willingness of creditors to show ongoing forbearance.

## Unemployment

As employment has fallen, unemployment has risen. The LFS unemployment rate was 7.9% in the three months to August, the highest for almost thirteen years, and up substantially from the 5.2% rate recorded in 2008 Q1 (Chart 3.10).

Consistent with employment indicators, there has, however, been a significant moderation in the pace at which unemployment is increasing in both the LFS and the more timely claimant count measure. For example, the 21,000 increase in the claimant count in September was the smallest monthly rise since May 2008. The extent to which unemployment continues to rise will depend on the outlook for employment and developments in labour supply.

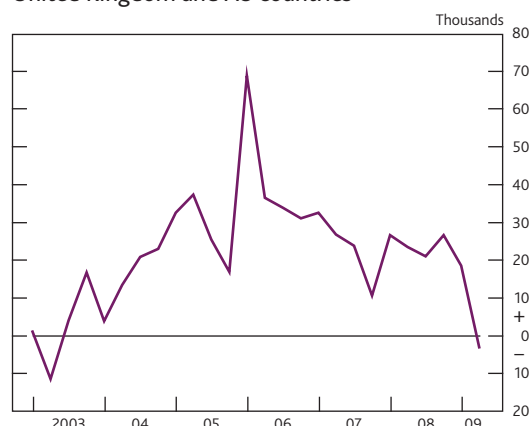
## 3.4 Labour supply

In addition to the effects on companies' supply capacity discussed in Section 3.2, the supply potential of the economy could also be affected by developments in the labour market.

The number of people who participate actively in the labour market is an important determinant of labour supply. A period of rising unemployment is often associated with a declining participation rate, as people become discouraged about their chances of finding a job. But since the start of this recession, the aggregate participation rate has barely fallen. Within that, it appears that labour supply is being boosted by the continuing rise in participation among older people (Chart 3.11). Falls in financial wealth over the past two years have pulled down the retirement funds of people with defined contribution pensions. That may encourage older people to defer retirement in order to build up their pension income. To the extent that these trends persist, the participation rate may continue to hold up more than it did during and immediately after the early 1990s recession.

The substantial rise in unemployment since the start of the recession could, however, significantly impair the supply potential of the economy. For example, effective labour supply could be adversely affected if people suffer extended periods of unemployment and are unable to retain or acquire the skills sought by employers. Long-term unemployment has increased as the downturn has persisted (Chart 3.12).



**Chart 3.13** Air passenger flows between the United Kingdom and A8 countries<sup>(a)</sup>

Sources: Civil Aviation Authority — Airport Statistics and Bank calculations.

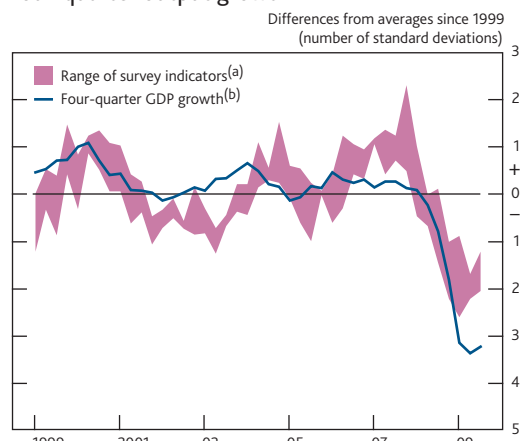
(a) These figures are calculated from Civil Aviation Authority data on flights between the United Kingdom and A8 airports. Flights between UK airports and those in A8 countries have been identified by Bank staff, and those routes that have at some point transported at least 1,000 passengers in a single quarter are included in the calculation. Net flows have been calculated as the number of passengers arriving in the United Kingdom each quarter less those leaving. These net flows have been seasonally adjusted by Bank staff. The A8 countries are the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia and Slovenia.

**Table 3.B** Indicators of labour market pressure

	Averages since 1998	2009		
		Q1	Q2	Q3
Vacancies/unemployed ratio <sup>(a)</sup>	0.38	0.21	0.18	0.18
<b>Recruitment difficulties</b>				
Agents' scores <sup>(b)</sup>	1.0	-3.5	-3.7	-3.8
BCC <sup>(c)</sup>	61	52	48	52
CBI skilled staff <sup>(d)</sup>	24	5	3	8
CBI unskilled staff <sup>(d)</sup>	7	1	1	0

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

(a) Number of vacancies divided by LFS unemployment. Vacancies exclude agriculture, forestry and fishing. The figure for 2009 Q3 is an estimate based on data in the three months to August. Average is since June 2001.  
 (b) Recruitment difficulties in the most recent three months compared with the situation a year earlier. End-quarter observations.  
 (c) Non seasonally adjusted. Manufacturing and services balances weighted by shares in employment.  
 (d) Averages since 1998 Q4. Balances of respondents expecting skilled and unskilled labour to limit output/business over the next three months (in the manufacturing sector) or over the next twelve months (in the financial, business, professional and consumer service sectors), weighted by shares in employment.

**Chart 3.14** Indicators of capacity utilisation and four-quarter output growth

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

(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.

The recession may have also reduced net migration to the United Kingdom. As discussed in previous *Reports*, positive net migration flows, particularly from Central and Eastern Europe, have made a significant contribution to supply growth since 2004. But air passenger data suggest that net flows from A8 Accession countries were around zero in 2009 Q2 (**Chart 3.13**). Overall net migration flows probably remained positive, reflecting net inflows of non-A8 non-UK citizens outpacing net outflows of UK citizens. Net migration is, nevertheless, probably making a smaller contribution to labour supply growth than in recent years.

### 3.5 Indicators of spare capacity

The balance between output and potential supply is an important determinant of the degree of inflationary pressure in the economy (Section 4). Overall spare capacity will depend on the amount of slack in the labour market and the degree of unused capacity within companies.

Given developments in participation and migration, any fall in potential labour supply since the start of the recession is likely to have been small relative to the increase in unemployment. That is consistent with the very loose labour market indicated by a range of survey measures (**Table 3.B**).

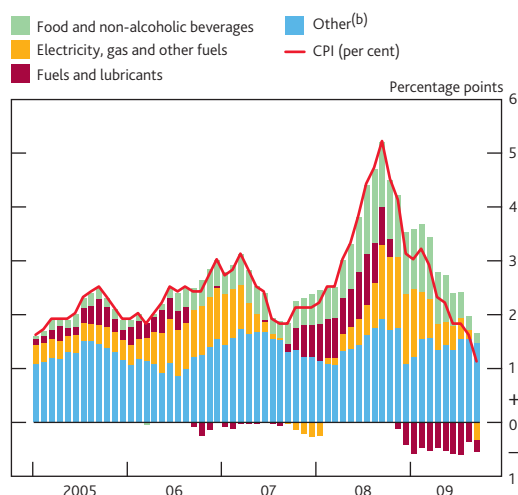
Measures of capacity utilisation reflect the balance between demand and supply in product markets. Survey evidence suggests that capacity utilisation is well below normal at present (**Chart 3.14**). But some surveys, as well as reports from the Bank's regional Agents, suggest that, despite the estimated fall in output, there may have been a slight decline in the amount of slack within companies in 2009 Q3.

Notwithstanding a likely reduction in potential supply, both labour market and capacity utilisation surveys suggest that the recession has opened up a substantial margin of slack in the economy. Looking ahead, the speed with which that spare capacity closes will depend on the strength of the recovery in output, and on the path of potential supply (Section 5).

## 4 Costs and prices

CPI inflation fell to 1.1% in September, having been 5.2% a year earlier. CPI inflation is likely to rise sharply to above the 2% target in the near term, reflecting higher petrol price inflation and the reversal of last year's reduction in VAT. Excluding the contributions of food and energy, CPI inflation has remained broadly stable in recent months, despite the weakness of nominal demand. Earnings growth, however, has fallen markedly over the past year. Import prices remained elevated. Measures of households' inflation expectations for the medium term have remained stable, at levels that appear broadly consistent with inflation meeting the target.

**Chart 4.1** Contributions to CPI inflation<sup>(a)</sup>



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

### 4.1 CPI inflation

CPI inflation declined to 1.1% in September, from 1.8% in June, and 5.2% in September 2008. The fall since June was more than accounted for by lower food and domestic gas and electricity price inflation (**Chart 4.1**). CPI inflation in Q3 as a whole was 1.5%, slightly higher than the MPC's central expectation at the time of the *August Report*. That largely reflected smaller-than-expected falls in gas and electricity prices.

CPI inflation is likely to rise sharply in the near term as past falls in petrol prices drop out of the twelve-month comparison and the reduction in VAT is reversed. These temporary effects are discussed in a box on page 33. This section focuses on the underlying forces affecting inflation.

A key determinant of inflation in the medium term is the balance between nominal demand and the effective supply capacity of the economy. Over the past year, nominal demand has fallen sharply (Section 2). So an important judgement for the MPC is the extent to which that puts downward pressure on inflation.

CPI inflation excluding the contributions of food and energy prices (shown in the 'Other' bars in **Chart 4.1**) has been broadly stable over much of 2009. That is perhaps surprising given the weakness of money spending, which would tend to encourage companies to lower prices in order to stimulate demand. There are a number of factors that help explain why the marked weakness of money spending appears, as yet, to have had only a muted impact on CPI inflation.

It is likely that the supply capacity of the economy has fallen over the past year, reducing the extent to which lower demand has led to an increased margin of spare capacity (Section 3). Judging the size of the fall in supply is difficult, but the larger it

## Temporary factors affecting CPI inflation in the near term

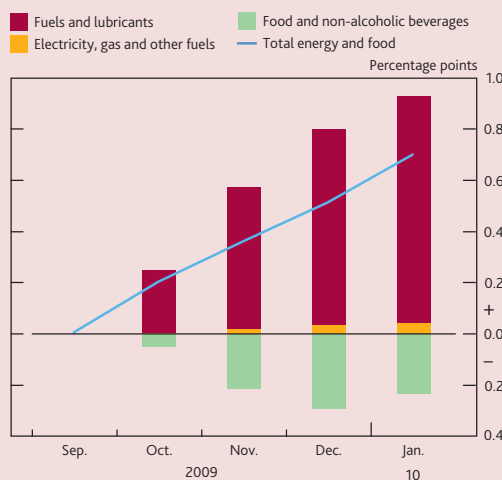
CPI inflation is likely to rise sharply in the near term. That largely reflects past falls in petrol prices dropping out of the twelve-month comparison and the reversal of the temporary reduction in VAT. There is uncertainty, however, over the extent of the rise in CPI: it is difficult to judge the impact of VAT with great precision, and the overall movement in CPI will also depend on the underlying forces affecting inflation, such as the weakness of money spending. Those underlying forces will continue to determine the path of inflation in the medium term, and are discussed in the main text and Section 5.

### The impact of energy and food prices

As **Chart 4.1** on page 32 shows, energy and food prices have accounted for much of the sharp rise and fall in CPI inflation over the past two years. Petrol prices are likely to continue to have a marked effect on CPI inflation in the near term. In part, that is because large price falls in late 2008 are dropping out of the twelve-month comparison.

**Chart A** shows how the contribution of energy and food prices to twelve-month CPI inflation would change if prices remained at their September 2009 levels. The contribution of petrol prices rises sharply as the marked falls in prices at the end of 2008 drop out of the twelve-month comparison. Partly offsetting that, past rises in food prices are also dropping out of the twelve-month comparison. On balance, under this assumption of unchanged prices, these 'base effects' from food and energy prices would add around 0.7 percentage points to twelve-month CPI inflation by January 2010 (**Chart A**).

**Chart A** Change in the contribution of energy and food to twelve-month CPI inflation from September 2009 assuming unchanged prices



### The impact of VAT

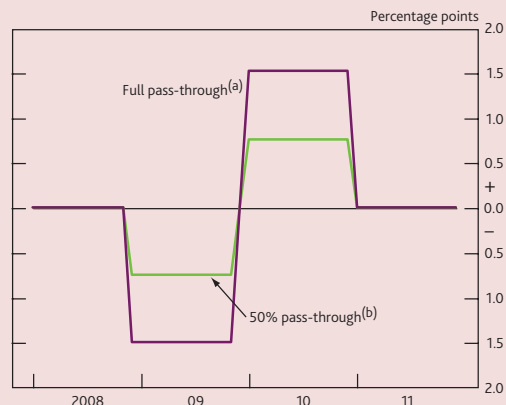
The Government reduced the standard rate of VAT from 17.5% to 15% for thirteen months from 1 December 2008. That has reduced CPI inflation since then, but will raise inflation around

the turn of the year. As discussed in a box on page 31 of the February 2009 *Report*, if the prices of all goods and services subject to the standard rate of VAT were reduced to reflect the temporary VAT cut, CPI inflation would have been reduced by around 1.5 percentage points in that month. The ONS has since estimated that the combined impact of the VAT cut and the increase in excise duties implemented at the same time was to reduce CPI inflation by around 0.5 percentage points in December 2008.<sup>(1)</sup> If the increase in excise duties were passed through in full, that would have added 0.2 percentage points to CPI inflation, implying that the VAT cut reduced CPI inflation by around 0.7 percentage points.

**Chart B** shows two stylised illustrations of how the VAT cut might affect twelve-month CPI inflation, one in which all prices subject to VAT vary, and one in which only half do so. Each example assumes that prices only vary in response to VAT in the months where the VAT rate changes. CPI inflation rises in December 2009 as the VAT cut last year drops out of the twelve-month comparison. CPI inflation is then boosted further in January 2010 as companies raise prices to reflect VAT reverting to its previous rate. That boost remains in the twelve-month rate throughout 2010.

VAT is likely to raise CPI inflation in the coming months, but there is uncertainty about the magnitude and timing of this effect. The number of companies that base their prices on the lower level of VAT is likely to have changed since December 2008. For example, some retailers may have cut prices only for a short period, possibly because they wanted to revert to preferred pricing points. There is also uncertainty about when companies that continue to base prices on the lower VAT rate will choose to pass through the VAT reversal. Some companies may raise prices prior to January, while others may delay until after the New Year sales. That decision is likely to be influenced by developments in demand at that time.

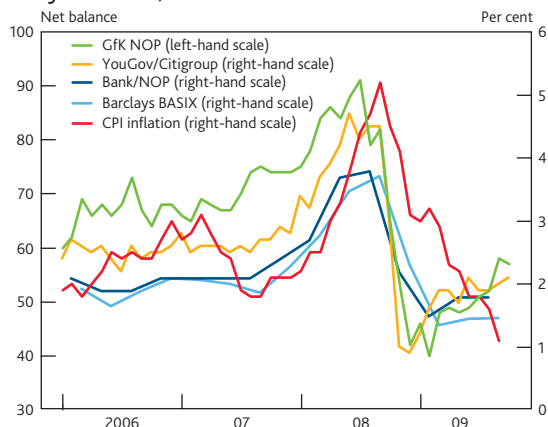
**Chart B** Two stylised illustrations of the contribution of the changes in VAT to twelve-month CPI inflation



(a) All prices subject to the standard rate of VAT vary in response to the temporary VAT change.  
 (b) Half the CPI basket subject to the standard rate of VAT varies in response to the temporary VAT change.

(1) See Lewis, M, Pike, R and Turner, D (2009), 'Impact of the VAT reduction on consumer price indices', available at [www.statistics.gov.uk/cci/article.asp?id=2258](http://www.statistics.gov.uk/cci/article.asp?id=2258).

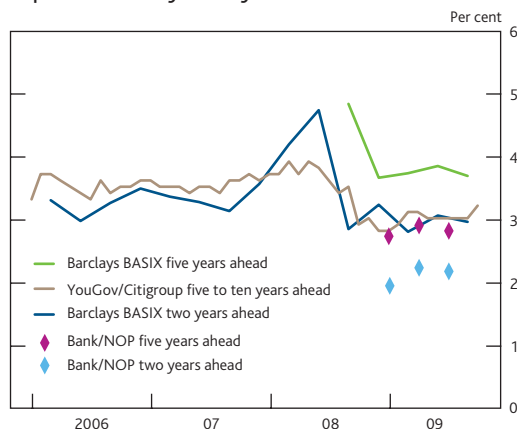
**Chart 4.2** CPI and households' inflation expectations for the year ahead, scaled to match CPI inflation<sup>(a)(b)</sup>



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.

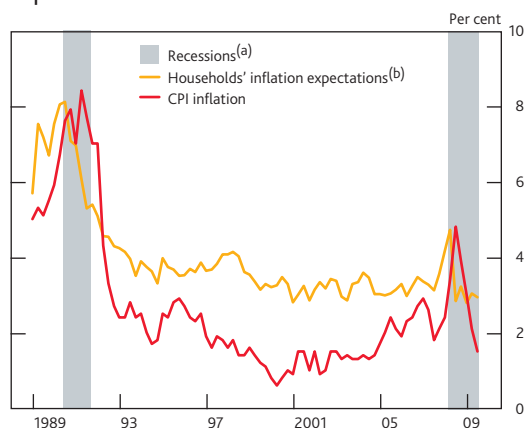
**Chart 4.3** Measures of households' inflation expectations beyond a year ahead<sup>(a)</sup>



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.

**Chart 4.4** CPI inflation and households' inflation expectations



Sources: Barclays Capital and ONS.

- (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) Barclays BASIX two year ahead measure. The question does not reference a specific price index. Measure is based on the median estimated price change.

has been, the less the fall in demand will put downward pressure on inflation. So the inflation outlook will depend, in part, on the size and persistence of the erosion in supply (Section 5).

In addition, it is likely that the impact of spare capacity on CPI inflation has been reduced or offset by other factors. It may have been reduced because businesses expect the substantial policy stimulus to lead to a recovery in nominal demand and a smaller margin of spare capacity in the future, making them less likely to change their prices now (Section 4.2). And some of the downward pressure from spare capacity on CPI inflation has been offset by upward pressure from higher import prices (Section 4.3).

Although CPI inflation excluding food and energy has held up, there has been a marked slowdown in nominal wage growth over the past year (Section 4.4). And there are some signs that inflationary pressures towards the start of the supply chain have eased (Section 4.5). It is possible that these developments reflect the fall in nominal demand, and signal future weakness in consumer prices. The outlook for inflation in the medium term is discussed in Section 5.

## 4.2 Inflation expectations

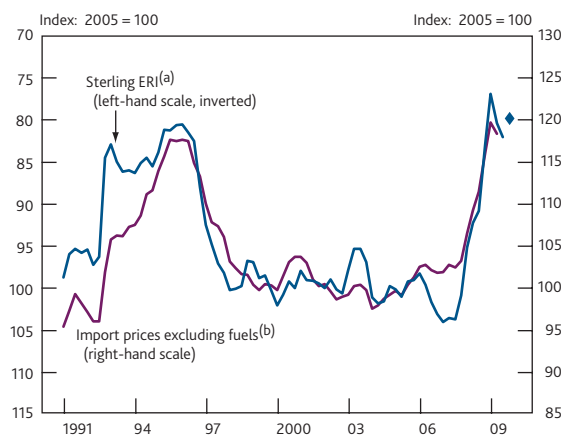
Companies' and households' expectations play an important role in determining the extent to which spare capacity pushes down inflation. For example, the more rapidly companies expect the margin of spare capacity to dissipate, the less likely they are to lower their own prices now, particularly if it is costly to change prices. More generally, if companies and households expect the margin of spare capacity to be short-lived, they are more likely to expect inflation to remain close to target. So measures of inflation expectations may provide a guide to the extent to which wage and price-setters are likely to react to weak demand now. Such measures only provide partial evidence, however. For example, there are no direct measures of companies' medium-term expectations for aggregate inflation.

Survey measures of households' near-term and medium-term inflation expectations (**Charts 4.2 and 4.3**) are somewhat lower than they were before the recession. But most household surveys, particularly those of medium-term inflation expectations, have been broadly stable during 2009. That is despite the fall in nominal demand and CPI inflation itself over this period, and contrasts with the 1990s recession, when policymakers sought to bring inflation down from elevated levels. In that recession, the Barclays BASIX measure of households' inflation expectations fell sharply ahead of a marked decline in CPI inflation (**Chart 4.4**). The relative stability of these measures of inflation expectations recently suggests that inflation could be less sensitive to spare capacity in this recession compared with previous slowdowns.

Evidence from other measures of inflation expectations, however, has been somewhat mixed. Professional economists expect CPI inflation to be close to target in two years' time — on average, the economists surveyed by the Bank in October expected CPI inflation to be 1.8% two years ahead, the same as in the July survey (see the box on page 48). But forward inflation rates derived from inflation swaps, which provide an indication of inflation expectations in financial markets, have drifted up a little over the past month.

Although most available measures of inflation expectations have been stable recently, there remain significant risks in both directions. If the recovery in demand is slower than companies and households anticipate, then that could cause them to expect low inflation to persist for a period, and subsequently build that into their wage and price decisions. But the substantial policy stimulus, combined with the likely pickup in inflation in the near term, could cause inflation expectations to rise. The MPC will continue to monitor measures of inflation expectations closely (Section 5).

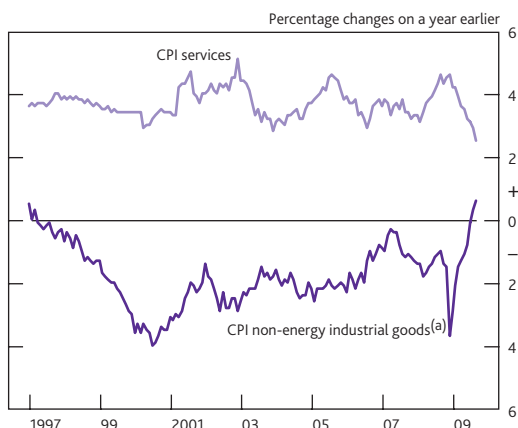
**Chart 4.5** Import prices excluding fuels and the sterling ERI



Sources: Bank of England, ONS and Bank calculations.

- (a) Quarterly averages of daily data up to 2009 Q3. The diamond is an average over the fifteen working days to 4 November 2009.  
 (b) Excluding the estimated impact of missing trader intra-community fraud. The latest observation is 2009 Q2.

**Chart 4.6** CPI non-energy industrial goods and CPI services



- (a) CPI goods excluding food and non-alcoholic beverages, alcoholic beverages and tobacco, fuels and lubricants, and electricity, gas and other fuels.

### 4.3 Import prices and energy prices

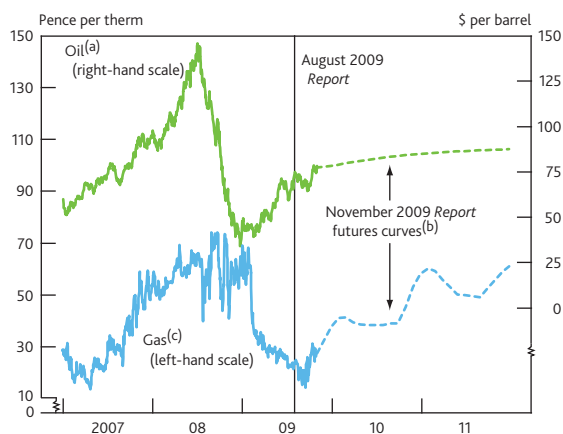
In the medium to long term, inflation is determined by the stance of monetary policy. But over shorter horizons, sharp movements in energy and import prices can materially influence overall inflation, given that other prices are likely to take time to adjust. There has been a substantial rise in the relative price of imports over the past two years, and the resulting upward pressure on consumer prices may have masked downward pressure from weak nominal demand.

Import prices excluding fuels fell by 1.1% in Q2, but prices remain around 15% higher than in mid-2007 when the sterling effective exchange rate began to depreciate (Chart 4.5). That has put upward pressure on businesses' costs. Following such a rise in non-wage costs, companies may be willing to accept lower profits for a time, but eventually are likely to seek to reverse that profit squeeze. That could occur through an increase in labour productivity, or via a reduction in employees' real wages through some combination of lower nominal wages and higher final prices.

Some of the adjustment to higher import costs to date is likely to have occurred through higher prices. The prices of CPI non-energy industrial goods, which tend to be more import-intensive than services, rose in the twelve months to September, and the positive twelve-month growth rate in August was the first since 1997 (Chart 4.6). But some of the adjustment to higher import costs is also likely to have occurred through lower nominal wages (Section 4.4).

The extent to which companies still need to reduce real wages is uncertain. As discussed in Section 3, other factors will also affect how far real wages need to fall. It is likely that



**Chart 4.7 Energy prices**

Sources: Bloomberg, Reuters, Thomson Datastream and Bank calculations.

- (a) Brent forward price for delivery in 10 to 21 days' time.  
 (b) Futures prices for November 2009 are averages during the fifteen working days to 4 November. Gas futures prices from December 2009 to February 2011 are monthly averages of daily data. Thereafter, gas futures prices have been interpolated from quarterly data.  
 (c) One-day forward price of UK natural gas.

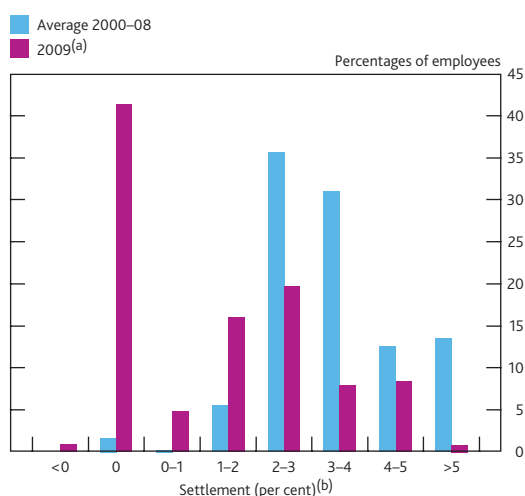
**Table 4.A Private sector earnings<sup>(a)</sup>**

Percentage changes on a year earlier

	Averages since 2000	2009		2009		
		Q1	Q2	July	Aug.	Sep.
(1) AEI regular pay	3.9	2.8	2.1	1.8	1.5	n.a.
(2) Pay settlements <sup>(b)</sup>	3.3	3.4	2.6	2.4	2.4	2.3
(1)–(2) Regular pay drift <sup>(c)</sup>	0.6	-0.6	-0.5	-0.6	-0.9	n.a.
<b>(3) Total AEI</b>	<b>3.8</b>	<b>-1.5</b>	<b>2.3</b>	<b>1.4</b>	<b>1.2</b>	<b>n.a.</b>
(3)–(1) Bonus contribution <sup>(c)</sup>	-0.1	-4.3	0.2	-0.4	-0.3	n.a.
Memo item: AWE <sup>(d)</sup>	3.8	-4.3	0.6	0.1	-0.2	n.a.

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

- (a) Three-month moving average measures unless otherwise stated.  
 (b) Average over the past twelve months.  
 (c) Percentage points.  
 (d) AWE data excluding arrears. Average is since March 2001. The AWE is not classified as a National Statistic.

**Chart 4.8 Distribution of private sector wage settlements**

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

- (a) Based on settlements effective between 1 January and 4 November 2009.  
 (b) A settlement that is a round number is classified within the bucket where that round number is the upper bound. For example, a 2% settlement is included within the 1% to 2% bucket.

some further adjustment in labour costs is needed — the labour share has risen in 2009 (see **Chart 3.8** on page 29) — but that could occur through higher prices, lower nominal wages or a further shake-out in employment. How that adjustment occurs will in part depend on expectations of nominal demand and inflation (Section 4.2).

Fluctuations in the relative price of energy (**Chart 4.7**) have, like import prices, had a substantial effect on CPI inflation over the past two years (**Chart 4.1**). Spot oil prices have risen by 12% since the *August Report*, averaging \$77 per barrel in the fifteen working days to 4 November. That will push up inflation a little in the near term as higher oil prices feed through to petrol prices. Spot wholesale gas prices have risen by 23% since August, and the futures curve is upward sloping (**Chart 4.7**). How movements in wholesale prices translate into changes in retail gas and electricity prices is, however, highly uncertain. The energy price assumptions underlying the MPC's projections are described in a box on page 42.

## 4.4 Nominal wages

Earnings data suggest that nominal pay growth remained very subdued in Q3. In the private sector, the average earnings index (AEI) rose by 1.2% in the three months to August compared with a year earlier, much weaker than the average growth rate since 2000 of 3.8% (**Table 4.A**).

Pay settlements, which make the largest contribution to overall earnings growth on average, have weakened markedly in 2009. Around 40% of settlements in the private sector in the year to date have been for pay freezes (**Chart 4.8**). Reflecting that weakness, the three-month mean settlement was 1.4% in September. Bonuses and regular pay drift — the two elements of earnings over and above basic pay settlements — fell in the three months to August compared with the same period a year earlier, subtracting just over 1 percentage point from private sector AEI growth (**Table 4.A**).

Alternative measures of pay also suggest that earnings growth remains very subdued. Indeed, annual growth in the experimental average weekly earnings (AWE) measure is weaker than the AEI (**Table 4.A**). In part, that reflects the fact that the sectoral weights underlying the AWE index are updated more frequently, so the AWE should better capture changes in employment composition across industries, and in particular, the likely increase in the share of lower paid jobs during this recession.<sup>(1)</sup>

Wage growth, like CPI inflation, will be influenced by developments in import prices and nominal demand. The weakness of earnings growth could reflect companies

(1) The ONS have submitted the AWE to the UK Statistics Authority for assessment to gain National Statistics status. If the AWE passes this assessment, it would replace the AEI as the ONS monthly measure of wages and salaries. See [www.statistics.gov.uk/pdfdir/awe0909.pdf](http://www.statistics.gov.uk/pdfdir/awe0909.pdf).

adjusting to the substantial rise in import costs by bearing down on their employees' nominal pay (Section 4.3). Companies are more likely to respond to higher import costs in this way if they expect inflation to remain at target, so this response is consistent with the stability of inflation expectations in this recession (Section 4.2). If, however, most of the adjustment to the rise in import costs has occurred through higher consumer prices, more of the weakness of nominal wages may reflect the sharp fall in nominal demand.

## 4.5 Output prices

Output prices measure inflationary pressures towards the start of the supply chain, and may capture early signs that the weakness in nominal demand is putting downward pressure on prices.

Indicators of output price inflation in the service sector have weakened. The four-quarter inflation rate of the ONS's experimental Services Producer Price Index and the output price balances from the CIPS/Markit and CBI surveys are all lower than their recent averages (Table 4.B). That chimes with the fall in CPI services inflation during 2009 (Chart 4.6).

Manufacturing output price inflation appears more resilient. Although annual inflation fell to -0.4% in 2009 Q3, much of that reflected a 15% fall in the price of petroleum products. Indeed, excluding energy and food, twelve-month manufacturing output price inflation is not markedly different to its average since 2000, and recent monthly inflation rates have not been particularly weak (Chart 4.9). This resilience relative to services inflation is likely to reflect the greater proportion of costs accounted for by imports.

In summary, weak nominal demand is putting some downward pressure on both output prices and consumer prices, but that pressure appears less than the fall in nominal demand alone would imply. That is likely to reflect the impact of the rise in import costs, the fall in supply, and the stabilising influence of inflation expectations. The sensitivity of inflation to the weakness of nominal demand over the forecast period is discussed in Section 5.

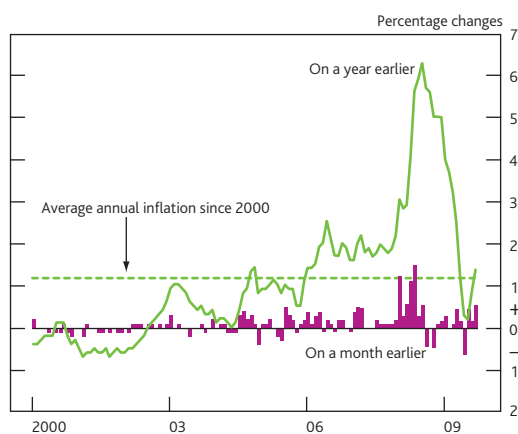
**Table 4.B** Indicators of output prices in the services sector

	Averages since 2000	2008 Q4	2009 Q1	2009 Q2	2009 Q3	2009 Oct.
Services Producer Price Index <sup>(a)</sup>	2.3	2.9	0.8	-0.4	n.a.	n.a.
CIPS/Markit services <sup>(b)</sup>	52.3	48.6	45.2	46.3	47.8	49.0
CBI business and professional services <sup>(c)</sup>	-7	-10	-22	-35	-31	n.a.

Sources: CBI, CIPS/Markit and ONS.

- (a) Percentage change on a year earlier. The Services Producer Price Index is an experimental index. It is not classified as a National Statistic.  
 (b) Averages of monthly data. A reading above 50 indicates increasing average prices this month relative to the situation one month ago.  
 (c) Percentage balance of respondents reporting average selling prices to be 'up' relative to 'down' over the past three months.

**Chart 4.9** Manufacturing output prices excluding food and energy<sup>(a)</sup>



(a) Excluding food, beverages, tobacco and petroleum products. Data are non seasonally adjusted.

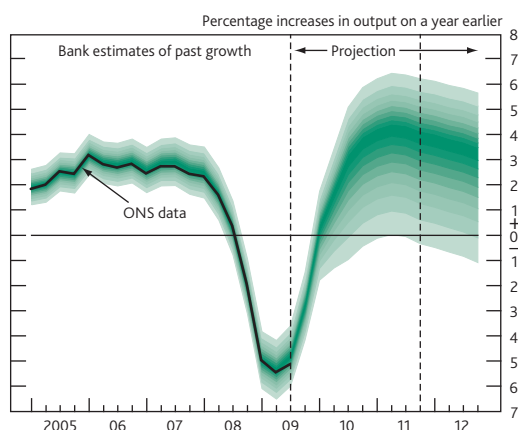
## 5 Prospects for inflation

Output is estimated to have fallen further in the third quarter of 2009. Money growth has weakened. But a range of other indicators suggest that economic activity has begun to stabilise. A recovery in output is likely, driven by the considerable stimulus from policy, including the Bank's programme of asset purchases, and by the past depreciation of sterling. There are a number of factors likely to restrain nominal spending growth, however, including adjustments to balance sheets. Those factors mean that some degree of economic slack is likely to persist over the forecast period. Temporary factors are likely to push CPI inflation well above target in the coming months, before persistent spare capacity causes it to fall back below the target. Further out, under the assumptions that Bank Rate moves in line with market interest rates and the stock of assets purchased through the issuance of central bank reserves reaches and stays at £200 billion, the risks of inflation being above or below target are broadly balanced by the end of the forecast period. But there are significant risks to the inflation outlook in each direction.

### 5.1 The projections for demand and inflation

Output in the United Kingdom has fallen precipitously over the past year. Nominal spending and money growth remain extremely weak. The UK economy needs to rebalance away from private and public consumption and towards higher net exports. Monetary policy cannot — and should not seek to — prevent that adjustment taking place over the medium term. Its task is to set monetary conditions and thus overall nominal spending so that inflation remains close to target.

**Chart 5.1** GDP projection based on market interest rate expectations and £200 billion asset purchases



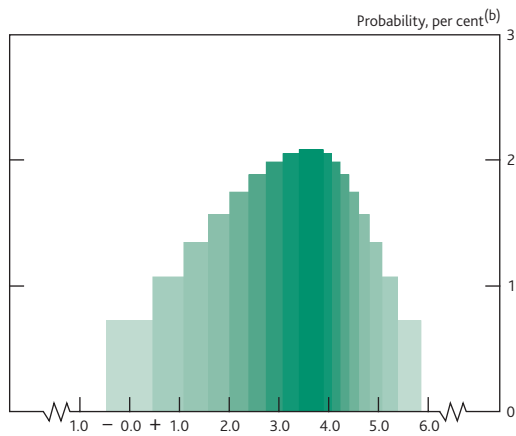
The fan chart depicts the probability of various outcomes for GDP growth. It has been conditioned on the assumption that the stock of purchased assets financed by the issuance of central bank reserves reaches £200 billion and remains there throughout the forecast period. To the left of the first vertical 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 outcomes 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 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 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.

**Chart 5.1** shows the outlook for real GDP growth, on the assumption that Bank Rate follows a path implied by market interest rates. 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 £200 billion in 2010 Q1 and then remains at that level throughout the forecast period. **Chart 5.2** represents a cross-section of the GDP growth fan chart in 2010 Q4.

There are several factors supporting a recovery in output growth. The substantial monetary policy stimulus is likely to provide a significant spur to growth throughout the forecast period. In particular, the programme of asset purchases should, through their impact on money growth and asset prices, provide a boost to output growth. And the large past depreciation in sterling, combined with a recovery abroad, should increase the demand for UK-produced goods and services.

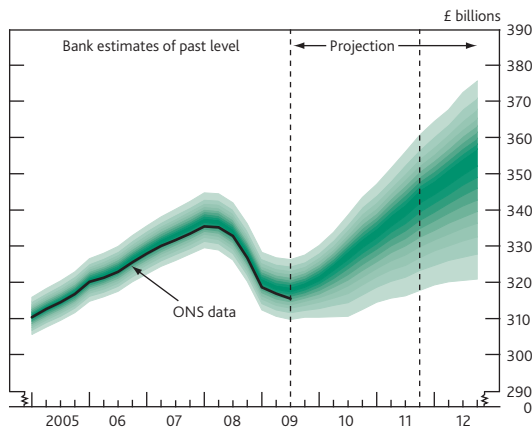


**Chart 5.2** Projected probabilities of GDP growth outturns in 2010 Q4 (central 90% of the distribution)<sup>(a)</sup>



- (a) Chart 5.2 represents a cross-section of the GDP fan chart in 2010 Q4 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 £200 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 Q4 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 GDP growth being within  $\pm 0.05$  percentage points of any given GDP growth rate, specified to one decimal place. The probability attached to GDP growth being between any two rates is given by 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** Projection of the level of GDP based on market interest rate expectations and £200 billion asset purchases



Chained-volume measure. See the footnote to Chart 5.1 for details of the assumptions underlying the projection for GDP growth. The width of this fan over the past has been calibrated to be consistent with the four-quarter growth fan chart, under the assumption that revisions to quarterly growth are independent of the revisions to previous quarters. Over the forecast, the mean and modal paths for the level of GDP are consistent with Chart 5.1. So the skews for the level fan chart have been constructed from the skews in the four-quarter growth fan chart at the one, two and three-year horizons. This calibration also takes account of the likely path dependency of the economy, where, for example, it is judged that shocks to GDP growth in one quarter will continue to have some effect on GDP growth in successive quarters. This assumption of path dependency serves to widen the fan chart.

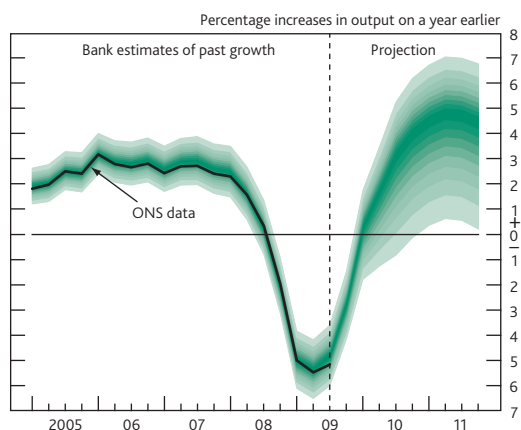
A number of factors will, however, act as a drag on the recovery over the medium term. Despite recent improvements, banks continue to face capital and funding challenges, and so credit conditions will probably remain tight, holding back money, credit and spending growth. The recognition that a large fiscal consolidation will be necessary will weigh on nominal spending growth. For both households and companies, uncertainty over future incomes and concerns over balance sheets are likely to bear down on expenditure for some time. And world output and trade are likely to remain some way below levels consistent with continuations of their pre-recession trends, depressing the demand for UK exports.

On balance, the Committee judges that the interaction of these factors points to a slow recovery in the level of economic activity. The projected distribution for growth is somewhat stronger than in the *August Report*, reflecting the lower level of the exchange rate, the larger scale of asset purchases, the lower assumed path for Bank Rate (see the box on page 42) and a stronger outlook for world demand. Chart 5.3 shows the Committee's best collective judgement for the level of GDP, corresponding to the distribution for GDP growth shown in Chart 5.1. Despite robust growth relative to its long-run average, output is likely to remain substantially below the level implied by a continuation of its pre-recession trend throughout the forecast period. That reflects in large part the impact of the downturn on the supply capacity of the economy, but also some sustained weakness in the level of demand relative to supply. Chart 5.4 shows the GDP growth 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 5.5 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 interest rates. Inflation is likely to rise above the target in the coming months, reflecting higher petrol price inflation and the reversal of last year's reduction in VAT. But inflation is then likely to fall back below the target, as spare capacity continues to put downward pressure on prices, and the upward impetus from the past depreciation of sterling fades.

There are a number of uncertainties around the outlook for inflation, and there is a range of views among Committee members about their relative importance. The downward pressure from weak nominal spending will depend on the timing and strength of the recovery, the impact of the downturn on the supply capacity of the economy, and on the sensitivity of inflation to the degree of economic slack. The profile for inflation will also depend on the degree to which companies still need to adjust fully to the higher import costs associated with sterling's depreciation and on whether there are further large movements in exchange rates and commodity prices. The Committee judges that the possibility

**Chart 5.4** GDP projection based on constant nominal interest rates at 0.5% and £200 billion asset purchases



See footnote to Chart 5.1.

of further such relative price movements, and the uncertainty surrounding the current degree of spare capacity in the economy, mean that the outlook for inflation is unusually uncertain.

Overall, the Committee judges that, conditioned on the market path for interest rates and the announced programme of asset purchases, the risks of inflation being above or below target are largely balanced by the end of the forecast period. The outlook for inflation in the medium term is somewhat higher than in the *August Report* (Chart 5.6), reflecting the stronger projected distribution for GDP growth. Chart 5.7 shows the inflation projection under constant interest rates for the next two years.

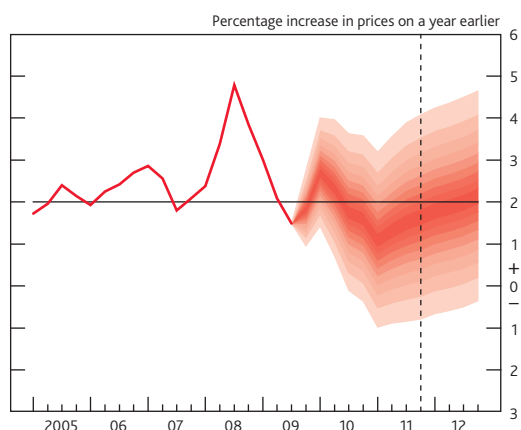
## 5.2 Key uncertainties

### How much will the recovery be hindered by weak credit supply?

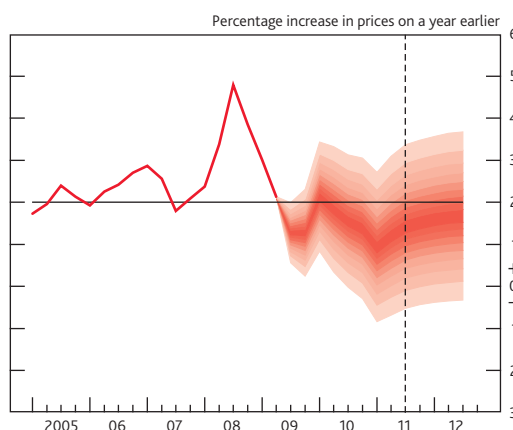
Banks need to reduce their leverage and improve their funding positions. Those pressures have reduced their ability to extend loans to companies and households. That has meant that bank lending and money growth have continued to weaken, and credit conditions have remained tight.

There have been some further improvements in banking sector conditions. The availability of funding has continued to improve. The recoveries in a range of asset prices, if sustained, could limit the losses made by banks. And the number of delinquent loans appears to have been somewhat lower, to date, than might have been expected given the scale of the recession. Perhaps reflecting these factors, there have been some signs that credit conditions facing companies and households have at least stabilised, although they remain tight by historical standards.

**Chart 5.5** CPI inflation projection based on market interest rate expectations and £200 billion asset purchases

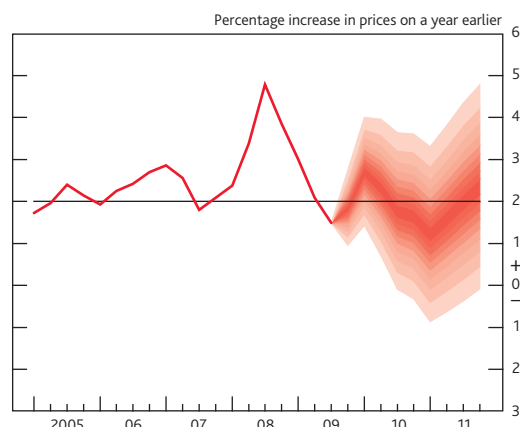


**Chart 5.6** CPI inflation projection in August based on market interest rate expectations and £175 billion asset purchases



**Charts 5.5 and 5.6** The fan charts depict the probability of various outcomes for CPI inflation in the future. Charts 5.5 and 5.6 have been conditioned on the assumptions that the stock of purchased assets financed by the issuance of central bank reserves reach £200 billion and £175 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 darkest central band on only 10 of those occasions. The fan charts are constructed so that outcomes 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 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 5.7** CPI inflation projection based on constant nominal interest rates at 0.5% and £200 billion asset purchases



See footnote to Chart 5.5.

Conditions in non-bank credit markets have continued to ease. The cost of non-bank finance, for example through corporate bond and equity issuance, has fallen further. In part, that is likely to reflect the Bank's asset purchase programme, which has encouraged investors to switch funds from gilt holdings into other assets and has provided targeted support in some private asset markets. The improvements also reflect global rallies across a range of asset markets.

There remains considerable uncertainty, however, over the likely strength of bank lending to UK companies and households over the forecast period. UK banks will need to restructure their balance sheets further; they face further losses on their credit exposures, and it is not yet clear how much more capital will be required by either markets or regulators. Reduced availability of credit from foreign lenders could cause credit conditions to tighten further. Weaker bank lending would be likely to have a disproportionate impact on smaller companies, given their lack of access to capital markets.

Overall, the Committee judges it likely that tight credit conditions will continue to restrain money and spending growth throughout the forecast period. Even with robust growth in output, bank lending will probably remain weak over the next three years. There are risks to spending in both directions from the uncertainties over credit supply. On the upside, it is possible that further asset price gains and a lower-than-expected level of defaults could support faster growth in both lending and spending. But on the downside, banks' losses might increase by more than expected, perhaps because lower defaults to date on loans have in part reflected temporary factors, such as forbearance by some companies' creditors. That, or further shocks to the financial system, could push down further on money growth, credit supply and nominal spending.

### By how much might lower potential output reduce spending?

The output of the UK economy has fallen markedly during the recession. It is likely that this, in part, reflects a reduction in the supply potential of the economy. Supply potential is not observed directly, so the extent to which it has deteriorated is highly uncertain. But the magnitude of that deterioration could have significant implications for nominal spending over the forecast period.

There are a number of channels through which the financial crisis, and the associated recession, is likely to reduce UK supply capacity. Some of these effects are common to most recessions. Lower investment will lead to slower growth in the capital stock, reducing labour productivity. Higher unemployment is likely to lead to lower labour supply as some people lose, or are unable to acquire, the skills sought by employers. That effect may be partly offset, however, to the

## Financial and energy market assumptions

As a benchmark assumption, the projections for GDP growth and CPI inflation described in **Charts 5.1** and **5.5** are conditioned on a path for Bank Rate implied by market interest rates (**Table 1**). In the period leading up to the MPC's November decision, the path implied by forward market interest rates was for Bank Rate to remain close to 0.5% until early 2010. Interest rates were assumed to rise thereafter, with the path around 0.6 percentage points lower, on average, over the remainder of the forecast period than assumed in the *August Report*.

**Table 1** Conditioning path for Bank Rate implied by forward market interest rates<sup>(a)</sup>

Per cent														
	2009	2010				2011				2012				
	Q4 <sup>(b)</sup>	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
November	0.5	0.5	0.6	1.1	1.6	2.1	2.5	2.9	3.2	3.4	3.6	3.8	3.9	
August	0.5	0.7	1.1	1.7	2.2	2.7	3.2	3.6	3.8	4.0	4.2	4.3		

(a) The data are fifteen working day averages of one-day forward rates to 4 November 2009 and 5 August 2009 respectively. The curves are based on overnight index swap (OIS) rates.

(b) November figure for 2009 Q4 is an average of realised spot rates to 4 November, and forward rates thereafter.

The November projections are conditioned on an assumption that the total stock of asset purchases financed by the creation of central bank reserves increases to £200 billion and remains at that level throughout the forecast period, higher than the assumption of £175 billion of purchases assumed in the August projections.

The starting point for sterling's effective exchange rate index (ERI) in the MPC's projections was 80.1, the average for the fifteen working days to 4 November. That was 4.1% below the starting point for the August projections. Under the MPC's usual convention,<sup>(1)</sup> the exchange rate is assumed to depreciate a little, to 79.8 by 2011 Q4.

The starting point for UK equity prices in the MPC's projections was 2652 — the average of the FTSE All-Share for the fifteen working days to 4 November. That was 14.3% above the starting point for the August 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 9% higher (in US dollar terms) than at the time of the *August Report*. Wholesale gas futures prices were around 5% 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 November projections are conditioned on a benchmark assumption of no changes in domestic energy prices over the winter.

(1) 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.

extent that some people are willing to work longer hours, or delay their retirement, in response to lower financial wealth and concerns over pension provision.

Further to those general effects of recessions on supply, financial crises reduce supply capacity through additional channels. Tight credit conditions have restricted access to working capital for some companies, leading some to turn down orders and so reducing the effective supply potential of the economy. More generally, an impaired financial system will be less effective at allocating capital to its most productive uses, for example because riskier, but potentially more productive, enterprises find it more difficult to borrow. The Committee judges it likely that there will be some reduction in supply capacity, not only due to lower capital stock growth and weaker labour supply, but also through effects arising more directly from the impairment of the financial sector. But both the size and likely persistence of that erosion of supply are highly uncertain.

A persistent reduction in the United Kingdom's supply potential could have significant implications for spending over

the forecast period. Lower productivity would put downward pressure on real wages, reducing households' future incomes. And lower expected incomes may explain some of the recent weakness in consumption. But households are likely to take some time to recognise and adjust to the reduction in their future incomes, and so lower potential output could act as a further drag on consumption growth over the forecast period.

### **By how much will fiscal consolidation reduce spending over the forecast period?**

The gap between government spending and tax revenues has widened markedly. In part, that has been due to cyclical effects associated with the recession: for example, higher unemployment has increased benefit payments, and reduced tax revenues. But much of the deterioration reflects developments that are likely to be more persistent, including the reduction in potential output, and lower tax revenues from particular sectors of the economy. Those developments mean that the fiscal deficits would persist in the absence of significant fiscal consolidation. Reducing those deficits is part of the necessary rebalancing of the UK economy.

The Committee's projections are, as usual, conditioned on the most recent projections for government spending and tax rates, set out in the 2009 Budget. In those plans, public sector borrowing picks up sharply, peaking at around 12% of GDP during the first two years of the forecast period, before beginning to fall back towards the end of the Committee's forecast period (Section 2).

The process of fiscal consolidation will put significant downward pressure on nominal spending and therefore inflation. That downward pressure may begin to occur before the consolidation takes place, for example if households and companies reduce their spending in anticipation of higher future taxes.

### **By how much will households retrench?**

The prospects for household spending will depend in part on the factors discussed above: the availability of credit; the reduction in potential output and so future incomes; and upward pressure on household saving in anticipation of increases in taxes.

But other factors may also cause households to attempt to increase their saving. It is possible that the long period of stability in output and employment growth prior to the current recession reduced perceptions of the uncertainty around their future incomes. That may have discouraged saving. But the recession, and associated rising level of unemployment, is likely to have increased the desire to undertake such precautionary saving. In addition, some households, particularly those that built up high debt levels or have suffered losses in wealth, may increase saving further in the near term to help rebuild their finances.

Household saving has already increased sharply. And there are likely to be further rises in the saving rate, particularly if the prospect of fiscal consolidation is anticipated by households. Offsetting that, however, the current highly accommodative stance of monetary policy should help to mitigate the risk of a sharp increase in saving. The outlook for consumption also depends on households' income growth. In the near term, that is likely to be depressed by further falls in employment and weak wage growth. But, as employment and income growth recover, and the saving rate stabilises, household spending could grow at rates close to its historic average. Nonetheless the Committee judges that there is a risk that households may attempt to increase their saving further throughout the forecast period, putting additional downward pressure on household spending.

### **By how much will global demand support the rebalancing of the UK economy?**

The UK economy needs to rebalance away from private and public consumption and towards net exports. The pace at which the rebalancing towards net exports can occur will depend on: the strength of global demand; the share of that demand that UK exporters are able to capture; and the outlook for UK imports.

There have been some positive developments in the global demand outlook in recent months. Output in many advanced economies has stabilised, and a number of emerging economies are recovering strongly, led by domestic demand growth. Some of the extreme downside risks to global demand have receded.

Substantial uncertainties surround the prospects for world demand, however. Several advanced economies face similar headwinds to the United Kingdom. World output is therefore likely to remain somewhat below a level consistent with a continuation of its pre-recession trend. Further out, there remains the risk that recoveries in countries that previously ran current account deficits will not be matched by a sustainable strengthening in domestic demand in surplus countries. That would lead to a re-emergence of the global imbalances that contributed to the recent global recession, causing further volatility in asset prices and global demand in the medium term.

The lower level of sterling should aid the rebalancing of the UK economy. That will be an additional factor bearing down on UK imports, along with weak domestic demand. The depreciation should also boost the share of world trade that UK exporters are able to capture, although that could take time.

Overall, the Committee judges it likely that the recovery in global output growth and the lower level of sterling will together enable some rebalancing of the UK economy over the



forecast period. But there remain risks around the pace and sustainability of global output growth.

### **How sensitive will inflation be to the weakness in nominal spending?**

Inflation is likely to rise sharply over the coming months, reflecting higher petrol price inflation and the reversal of last year's reduction in VAT. Looking through those near-term movements, the key uncertainty for the inflation outlook is how much downward pressure the weakness of nominal spending will exert.

Excluding the contributions of food and energy, inflation has remained broadly stable during much of 2009, despite the marked weakness of nominal demand. Much of that resilience is likely to reflect the impact on prices of the 25% depreciation of sterling since mid-2007.

Some further adjustment to the past fall in the exchange rate is still to come, particularly given the further depreciation since the *August Report*. But there is uncertainty over just how much more adjustment is needed and what form that adjustment will take. It is possible that companies will continue to respond to higher imported costs by raising prices, putting further upward pressure on inflation in the near term. Alternatively, more of the remaining adjustment may take place through lower nominal wage growth. In that case, inflation would fall back more rapidly over the early part of the forecast period.

Further out, once the economy's adjustment to the past fall in the exchange rate is complete, inflation will depend on the balance between nominal demand and supply. So the key forces determining the path of nominal demand relative to supply — credit supply, fiscal consolidation, household retrenchment and global demand — will also be crucial for the inflation outlook. The Committee judges that some spare capacity is likely to persist throughout the forecast period.

Slack in the economy is likely to put downward pressure on prices, and cause inflation to fall below the target. The size of that drag on inflation is uncertain, however. It will be reduced if wage and price-setters expect monetary policy to be successful in reducing the degree of spare capacity over time, and so expect inflation to remain close to target. And robust output growth, even if not sufficiently strong to remove all the slack in the economy over the forecast period, may itself limit the downward pressure on prices. That may occur, for example, because the rebalancing of the economy away from private and public consumption towards higher net exports will require resources to be switched towards the production of different types of goods and services. That process will take time.

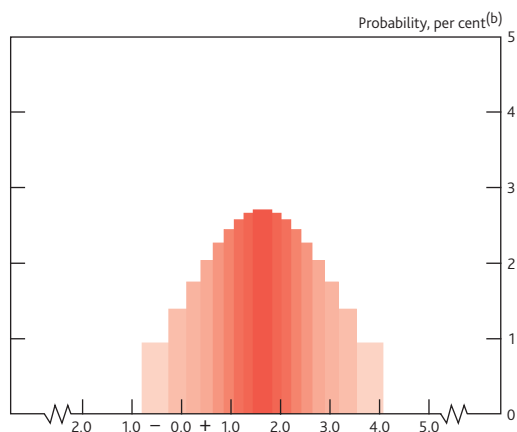
There are also upside risks to inflation in the medium term. It is possible that the current stimulative stance of policy will put upward pressure on inflation expectations, and so inflation, even in the presence of persistent spare capacity. In addition, a series of movements in relative prices, including large swings in oil prices and the exchange rate, have had significant effects on inflation over the recent past. Further similar shocks, such as rises in commodity prices triggered by a strong and sustained global recovery, or any falls in sterling, could again raise inflation. If sufficiently pronounced and sustained, that might pose risks to the stability of inflation expectations.

### 5.3 Summary and the policy decision

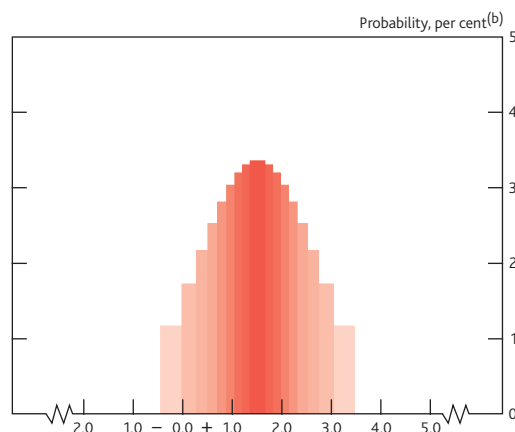
Output growth should continue to recover over the coming quarters, boosted by the stock cycle, the low level of official interest rates, the Bank's programme of asset purchases and the lower sterling exchange rate. Nonetheless output is likely to remain some way below the level consistent with a continuation of its pre-recession trend throughout the forecast period, reflecting both lower potential output, but also sustained weakness of demand relative to that lower level of potential supply. That is likely to lead to some downward pressure on inflation, although the extent of that pressure will depend on price-setters' expectations of monetary policy and nominal demand. The spread of outcomes for CPI inflation at the two-year horizon is shown in **Chart 5.8**, and the equivalent outlook at the time of the *August Report* is shown in **Chart 5.9**. **Charts 5.10** and **5.11** show frequency distributions for inflation and output at the two and three-year horizons.

In monitoring those factors that are likely to hinder the recovery in output growth, the Committee will focus in

**Chart 5.8** Projected probabilities of CPI inflation outturns in 2011 Q4 (central 90% of the distribution)<sup>(a)</sup>



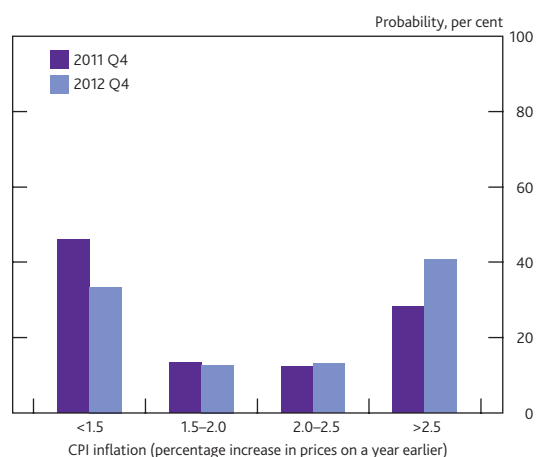
**Chart 5.9** Projected probabilities in August of CPI inflation outturns in 2011 Q4 (central 90% of the distribution)<sup>(a)</sup>



(a) **Chart 5.8** represents a cross-section of the CPI inflation fan chart in 2011 Q4 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 £200 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 inflation in 2011 Q4 would lie somewhere within the range covered by the histogram on 90 occasions. Inflation would lie outside the range covered by the histogram on 10 out of 100 occasions. **Chart 5.9** shows the corresponding cross-section of the August 2009 *Inflation Report* fan chart, which was conditioned on the assumption that the stock of purchased assets financed by the issuance of central bank reserves reached £175 billion and remained there throughout the forecast period.

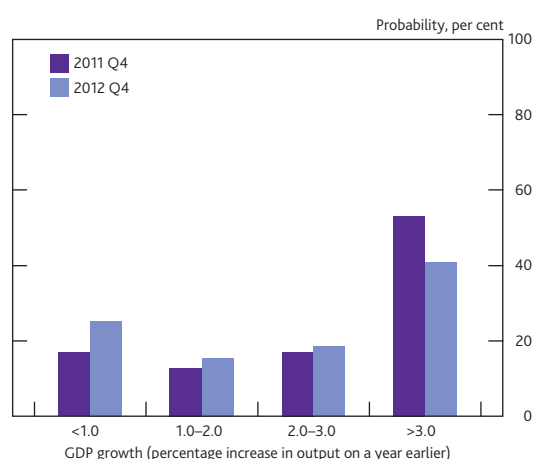
(b) Average probability within each band; the figures on the y-axis indicate the probability of inflation being within  $\pm 0.05$  percentage points of any given inflation rate, specified to one decimal place. The probability attached to inflation being between any two rates is given by the total area 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 5.10** Frequency distribution of CPI inflation based on market interest rate expectations and £200 billion asset purchases<sup>(a)</sup>



(a) These figures are derived from the same distribution as Chart 5.5. They represent the probabilities that the MPC assigns to CPI inflation lying within a particular range at a specified time in the future.

**Chart 5.11** Frequency distribution of GDP growth based on market interest rate expectations and £200 billion asset purchases<sup>(a)</sup>



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

particular on: developments in the banking sector, including the loan losses likely to be faced by banks, the pace of balance sheet restructuring, and indicators of credit availability; the ability of companies to raise finance in the capital markets; the pace of fiscal consolidation; measures of consumer and business confidence and household saving; and indicators of the recovery in global activity.

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; commodity prices; and measures of inflation expectations.

At its November meeting, the Committee noted that the substantial stimulus from the past easing in monetary and fiscal policy and the depreciation of sterling should lead to a slow recovery in the level of economic activity. CPI inflation looked set to rise sharply in the near term. Further out, downward pressure from the persistent margin of spare capacity was likely to bear down on inflation for some time to come. The Committee noted that a further expansion of the asset purchase programme should reduce that margin of spare capacity and bring inflation back to target more quickly. In light of the outlook, the Committee judged that maintaining Bank Rate at 0.5% and increasing the size of its asset purchase programme by £25 billion to a total of £200 billion was appropriate to keep CPI inflation on track to meet the 2% inflation target over the medium term.

## 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 October.

On average, CPI inflation was expected to be slightly below the 2% target in 2010 Q4, rising over the following two years to be at target in 2012 Q4 (Table 1). Most external forecasters expect inflation to be close to the 2% target in 2011 Q4, but the distribution of views remains relatively wide (Chart A). Compared with three months ago, inflation was expected to be slightly higher at the one-year horizon, but forecasters' expectations were unchanged at the two and three-year horizons.

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

	2010 Q4	2011 Q4	2012 Q4
CPI inflation <sup>(b)</sup>	1.7	1.8	2.0
GDP growth <sup>(c)</sup>	1.7	2.2	2.6
Bank Rate (per cent)	1.3	2.5	3.5
Sterling ERI <sup>(d)</sup>	81.7	83.5	84.2

Source: Projections of outside forecasters as of 23 October 2009.

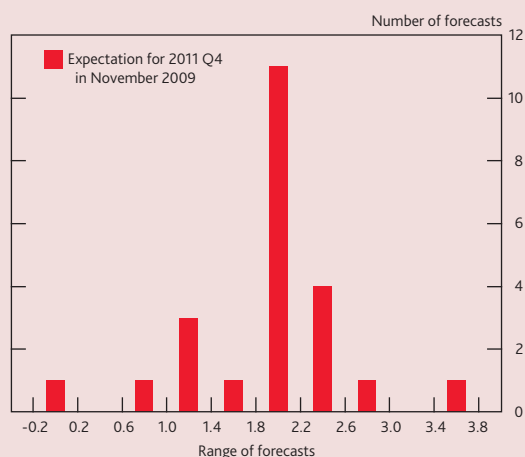
(a) For 2010 Q4, there were 25 forecasts for CPI inflation, 24 for GDP growth and Bank Rate and 20 for the sterling ERI. For 2011 Q4, there were 23 forecasts for CPI inflation, 22 for GDP growth and Bank Rate and 18 for the sterling ERI. For 2012 Q4, there were 22 forecasts for CPI inflation, 21 for GDP growth, 19 for 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.

**Chart A** Distribution of CPI central projections two years ahead



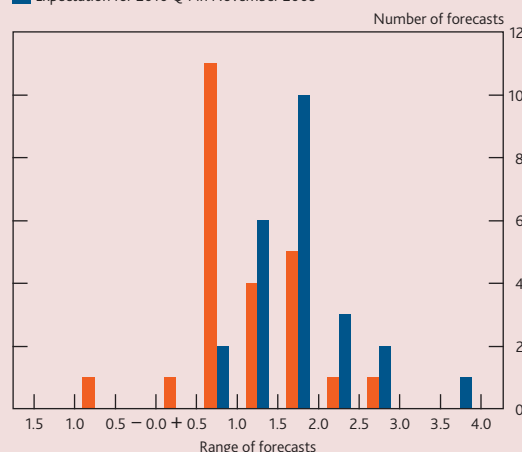
Source: Projections of 23 outside forecasters as of 23 October 2009.

On average, forecasters expected four-quarter GDP growth to be 1.7% at the one-year horizon, 0.6 percentage points higher than expected three months ago. All of the forecasters that provided estimates expected four-quarter GDP growth to be positive in 2010 Q4 and, compared with three months ago, the distribution had moved towards more positive outcomes

(Chart B). Four-quarter GDP growth was also expected to be somewhat higher at the two and three-year horizons, compared with three months ago.

**Chart B** Distribution of GDP growth central projections one year ahead

Expectation for 2010 Q3 in August 2009  
Expectation for 2010 Q4 in November 2009



Sources: Four-quarter GDP growth forecasts of 24 outside forecasters as of 23 July and 24 forecasters as of 23 October 2009.

The average level of Bank Rate expected by forecasters was somewhat higher than three months ago at the one-year horizon, but a little lower at the two and three-year horizons. On average, the sterling ERI was projected to increase 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 August, respondents thought, on average, that inflation was more likely to be below target in one year's time than above target.

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

<b>CPI inflation</b>							
Probability, per cent	Range:						
	<0%	0–1%	1–1.5%	1.5–2%	2–2.5%	2.5–3%	>3%
2010 Q4	4	14	23	24	18	10	7
2011 Q4	8	12	18	21	21	13	8
2012 Q4	6	10	15	24	23	14	9
<b>GDP growth</b>							
Probability, per cent	Range:						
	<-1%	-1–0%	0–1%	1–2%	2–3%	>3%	
2010 Q4		5	8	21	34	22	10
2011 Q4		4	7	14	24	30	20
2012 Q4		4	6	12	21	30	27

Source: Projections of outside forecasters as of 23 October 2009.

(a) For 2010 Q4, 25 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; 23 forecasters provided their assessment for 2011 Q4 and 22 forecasters provided their assessment for 2012 Q4. The table shows the average probabilities across respondents. Rows may not sum to 100 due to rounding.

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## **Text of Bank of England press notice of 10 September 2009**

### **Bank of England maintains Bank Rate at 0.5% and continues with £175 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 £175 billion financed by the issuance of central bank reserves.

The Committee expects the announced programme to 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 23 September.

## **Text of Bank of England press notice of 8 October 2009**

### **Bank of England maintains Bank Rate at 0.5% and continues with £175 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 £175 billion financed by the issuance of central bank reserves.

The Committee expects the announced programme to take another month 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 21 October.

## **Text of Bank of England press notice of 5 November 2009**

### **Bank of England maintains Bank Rate at 0.5% and increases size of Asset Purchase Programme by £25 billion to £200 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 £25 billion to £200 billion.

The world economy has shown signs of recovery, with a number of emerging market economies experiencing a strong rebound in growth, although global activity as a whole remains significantly depressed. Asset prices have risen internationally since the spring, reflecting both the gradual improvement in the economic climate and accommodative monetary policies. And banks' funding conditions have improved, though financial conditions remain fragile.

In the United Kingdom, output has fallen by almost 6% since the start of 2008. Households have reduced their spending substantially and business investment has fallen especially sharply. GDP continued to fall in the third quarter. A number of indicators of spending and confidence, however, suggest that a pickup in economic activity may soon be evident.

CPI inflation fell to 1.1% in September, having been 5.2% a year earlier. Inflation is likely to rise sharply to above the 2% target in the near term, reflecting higher petrol price inflation and the reversal of last year's reduction in VAT.

The medium-term prospects for output and inflation continue to be determined by the balance between two opposing sets of forces. On the one hand, there is a considerable stimulus still working through from the substantial easing in monetary and fiscal policy. The Bank's asset purchases have helped to boost asset prices and improve access to capital markets. The sterling effective exchange rate lies around a quarter below its mid-2007 level, improving the competitiveness of UK producers. On the other hand, the need for banks to continue the process of balance sheet repair is likely to limit the availability of credit. And high levels of debt will weigh on spending. On balance, the Committee believes that the prospect is for a slow recovery in the level of economic activity, so that a substantial margin of underutilised resources persists. That will continue to bear down on inflation for some time to come, offset in the short run by the impact of the past depreciation of sterling.

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. The Committee also agreed that it should extend its programme of purchases of government and corporate debt by £25 billion to a total of £200 billion, financed by the issuance of central bank reserves. The Committee expects the announced programme to take three months to complete. The scale of the programme will be kept under review.

The Committee's latest inflation and output projections will appear in the *Inflation Report* to be published at 10.30 am on Wednesday 11 November.

The minutes of the meeting will be published at 9.30 am on Wednesday 18 November.

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

# 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.

## Abbreviations

**A8 Accession countries** – Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia and Slovenia.

**APF** – Asset Purchase Facility.

**APS** – Asset Protection Scheme.

**BCC** – British Chambers of Commerce.

**BHPS** – British Household Panel Survey.

**CBI** – Confederation of British Industry.

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

**FTSE** – Financial Times Stock Exchange.

**G20** – The Group of Twenty Finance Ministers and Central Bank Governors.

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

**HMRC** – Her Majesty's Revenue and Customs.

**IBES** – Institutional Brokers' Estimate System.

**IMF** – International Monetary Fund.

**LTV** – loan to value.

**MPC** – Monetary Policy Committee.

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

**OFCs** – other financial corporations.

**ONS** – Office for National Statistics.

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

**PwC** – PriceWaterhouseCoopers.

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

**SMMT** – Society of Motor Manufacturers and Traders.

**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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