

Inflation Report

November 2011



BANK OF ENGLAND





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

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

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

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

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

The entire *Report* is available in PDF at www.bankofengland.co.uk/publications/inflationreport/2011.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/2011.htm.

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Overview

The prospects for the UK economy have worsened. Global demand slowed. And concerns about the solvency of several euro-area governments intensified, increasing strains in banking and some sovereign funding markets. Household and business confidence fell, both at home and abroad. These factors, along with the fiscal consolidation and squeeze on households' real incomes, are likely to weigh heavily on UK growth in the near term. Thereafter, the recovery should gain traction, supported by continued monetary stimulus and a gentle recovery in real incomes. Implementation of a credible and effective policy response in the euro area would help to reduce uncertainty and so support UK growth, but its absence poses the single biggest risk to the domestic recovery.

CPI inflation rose to 5.2% in September. Inflation is likely to fall back sharply through 2012 as the contributions of VAT, energy and import prices decline, and downward pressure from slack in the labour market persists. But how far and how fast inflation will fall are uncertain. Under the assumption that Bank Rate moves in line with market interest rates and the size of the asset purchase programme remains at £275 billion, inflation is judged more likely to be below than above the 2% target at the forecast horizon.

Financial and credit markets

Since the *August Report*, the MPC increased the size of its asset purchase programme by £75 billion, to a total of £275 billion. The MPC maintained Bank Rate at 0.5% and market interest rates suggested that the expected timing of the next rise in Bank Rate had been pushed out. Prices of risky assets fell sharply, and volatility in financial markets increased, as concerns about the euro area intensified. Conditions in bank funding markets deteriorated, increasing the risk of a renewed tightening in credit conditions. Euro-area leaders announced a package of measures on 27 October but substantial details were still to be agreed. UK broad money and credit growth remained weak.

Demand

The pace of global expansion slowed and the outlook worsened. Euro-area growth fell markedly in 2011 Q2, as growth in both Germany and France faltered. Euro-area growth is likely to weaken further in the near term, weighed down by fragile confidence, tight credit conditions and fiscal austerity. US GDP growth picked up in Q3 but prospects remain subdued given continued high unemployment and the prospective tightening in fiscal policy. The pace of expansion in some emerging markets cooled against a backdrop of tighter domestic policy and softening external demand. UK exports fell in 2011 Q2 and business surveys suggested that they would remain weak in the near term.

At home, domestic demand grew only modestly in 2011 Q2, having contracted sharply in the previous two quarters. Households' consumption fell for the fourth consecutive quarter, as the squeeze on real incomes continued. Revisions to spending and income data since the *August Report* suggested that the household savings ratio had been materially higher over the past two years than previously estimated. Business investment rebounded following an erratic fall in Q1, but four-quarter growth remained weak.

GDP was provisionally estimated to have increased by 0.5% in 2011 Q3, boosted by the unwinding of various one-off factors. Abstracting from such factors, underlying demand over the preceding year had grown at a rate well below its historical average. And business surveys pointed to even weaker growth in the near term, with output indicated to be broadly flat in Q4.

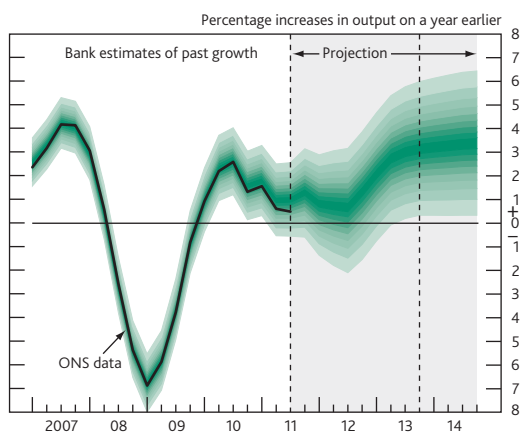
The Committee's projections are conditioned on the tax and spending plans set out in the *March Budget*. Those plans imply that the reduction in the cyclically adjusted primary deficit in 2011/12 will be similar to that observed in 2010/11.

The outlook for GDP growth

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 asset purchase programme remains at £275 billion. The marked deterioration in the external environment, together with the domestic headwinds stemming from the fiscal consolidation and squeeze on households' real incomes, means that growth looks set to be weak in the near term. The recovery is likely to gather pace over the second and third years of the forecast as private demand picks up, supported by continuing stimulus from monetary policy and a gentle recovery in real incomes.

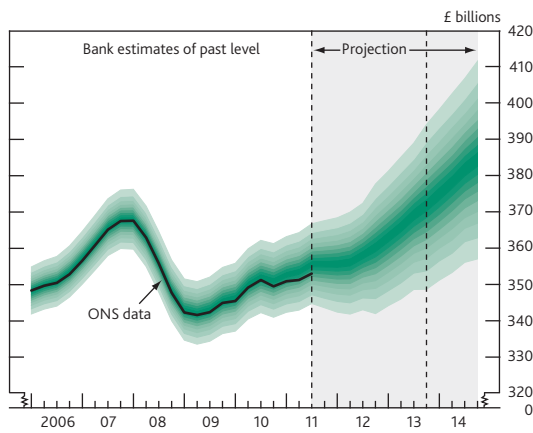
The outlook for output growth is unusually uncertain. That reflects in particular the exposure of the UK economy to developments in the euro area. The euro area faces substantial challenges as several members seek to ensure the sustainability of their public and external debt and maintain financial stability. Implementation of a credible and effective policy response in the euro area would diminish uncertainty and so support the UK recovery. Even in this case, however, the scale of the imbalances means that there is likely to be a prolonged period of subdued growth within the euro area. But a failure to meet these challenges would almost certainly have significant implications for the UK economy. To the extent that such a possibility is already reflected in asset prices, bank funding costs and confidence, it is captured in the MPC's projections. But the MPC sees no meaningful way to quantify the most extreme outcomes associated with developments in the euro area and, as was the case in the *August Report*, they are therefore excluded from the fan charts.

Chart 1 GDP projection based on market interest rate expectations and £275 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 £275 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. And on the remaining 10 out of 100 occasions GDP growth can fall anywhere outside the green area of the fan chart. Over the forecast period, this has been depicted by the light grey background. In any quarter of the forecast period, the probability mass in each pair of identically coloured bands sums to 10%. The distribution of that 10% between the bands below and above the central projection varies according to the skew at each quarter, with the distribution given by the ratio of the width of the bands below the central projection to the bands above it. In **Chart 1**, the probabilities in the lower bands are slightly larger than those in the upper bands at Year 1, but they are the same at Years 2 and 3. 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 2 Projection of the level of GDP based on market interest rate expectations and £275 billion asset purchases



Chained-volume measure (reference year 2008). 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.

Domestically, the strength of the recovery will depend on how much further households have to adjust to past falls in real incomes and to the more uncertain economic environment. The outlook for both household and business spending also depends on the extent to which the cost and availability of bank credit are affected by the renewed strains in bank funding markets and for how long those strains persist. The impact that the further round of asset purchases will have on nominal spending is also inevitably uncertain.

There remains a range of views among Committee members about the likely strength of the recovery. On the same assumptions as above, the Committee's best collective judgement is that by the second and third years of the forecast, growth is somewhat more likely to be above its historical average rate than below it.

Chart 2 shows that output is likely to remain significantly below the level associated with a continuation of its pre-recession trend. The Committee judges that a substantial part of that discrepancy reflects a shortfall in the level of potential supply. Nonetheless, a margin of spare capacity, concentrated in the labour market, is likely to endure throughout the forecast.

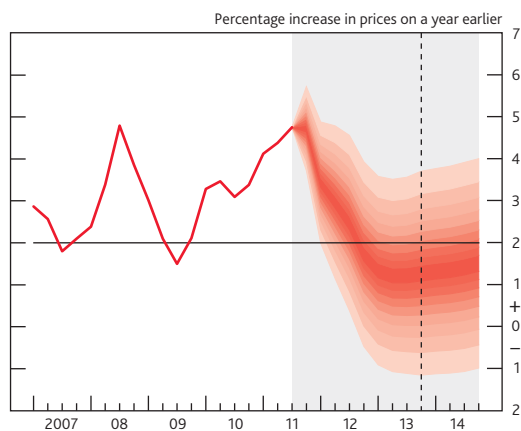
Costs and prices

CPI inflation rose to 5.2% in September. The strength of inflation continued to reflect the effects of the past increase in the standard rate of VAT to 20% and in the prices of energy and other imported goods and services. Oil and gas prices had fallen only modestly since August despite the marked deterioration in the global outlook.

Indicators of long-run inflation expectations were mixed. Professional forecasters' longer-term expectations and measures derived from financial markets were stable around average levels. In contrast, measures of households' longer-term expectations had increased over the past year or so, and in 2011 Q3 were above their series averages. And there was also some evidence that households expected inflation to be more persistent than envisaged in the Committee's central case.

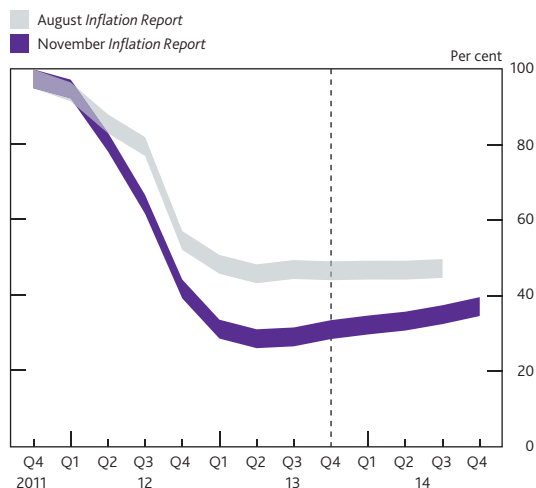
Labour productivity growth remained weak: the level of private sector productivity in 2011 Q2 was still below its level in 2007. Survey measures of capacity utilisation and strong private sector hiring in the year to 2011 Q2 continued to suggest that there was little margin of slack within companies. But employment fell during the summer, as gains in private sector employment slowed and the pace of public sector job losses quickened. The Labour Force Survey measure of unemployment rose to above 8%. Earnings growth edged up further, but remained well below its pre-recession average, reflecting both considerable slack in the labour market and weak productivity.

Chart 3 CPI inflation projection based on market interest rate expectations and £275 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 £275 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 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 fan on 90 out of 100 occasions. And on the remaining 10 out of 100 occasions inflation can fall anywhere outside the red area of the fan chart. Over the forecast period, this has been depicted by the light grey background. In any quarter of the forecast period, the probability mass in each pair of identically coloured bands sums to 10%. The distribution of that 10% between the bands below and above the central projection varies according to the skew at each quarter, with the distribution given by the ratio of the width of the bands below the central projection to the bands above it. In **Chart 3**, the probabilities in the lower bands are the same as those in the upper bands at Years 1, 2 and 3. See the box on pages 48–49 of the May 2002 *Inflation Report* for a fuller description of the fan chart and what it represents. The dashed line is drawn at the two-year point.

Chart 4 An indicator of the probability that inflation will be above the target



The November and August swaths in this chart are derived from the same distributions as **Chart 3** and **Chart 5.7** on page 42 respectively. They indicate the assessed probability of inflation being above target in each quarter of the forecast period. The 5 percentage points width of the swaths reflects the fact that there is uncertainty about the precise probability in any given quarter, but they should not be interpreted as confidence intervals. The dashed line is drawn at the two-year point of the November projection. The two-year point of the August projection was one quarter earlier.

The outlook for inflation

Chart 3 shows the Committee's best collective judgement for the outlook for CPI inflation, based on the same assumptions as **Chart 1**. Inflation is likely to fall sharply over 2012 as the contributions of VAT, energy and import prices decline, and downward pressure from slack in the labour market persists.

How far and how fast inflation is likely to fall remain uncertain. The extent to which inflation slows in the near term depends on the extent to which the sustained period of high inflation leads to upward pressure on pay and on whether companies attempt to restore their profit margins by raising prices. The evolution of inflation also depends on the extent to which the prospective period of weak demand leads to a widening margin of slack in the economy and the impact that has on costs and prices. The degree of slack and its impact on inflation will depend on: the path of output; the degree to which the recent weakness in productivity growth persists; the extent to which the unemployed are able to compete effectively for jobs; and the sensitivity of wages to labour market slack. Developments in inflation will also be sensitive to movements in commodity and other import prices.

There remains a range of views among Committee members regarding the relative strength of the factors affecting the outlook for inflation. On balance, the Committee's best collective judgement, based on the conditioning assumptions described above, is that inflation is more likely to be below than above the 2% target at the forecast horizon (**Chart 4**).

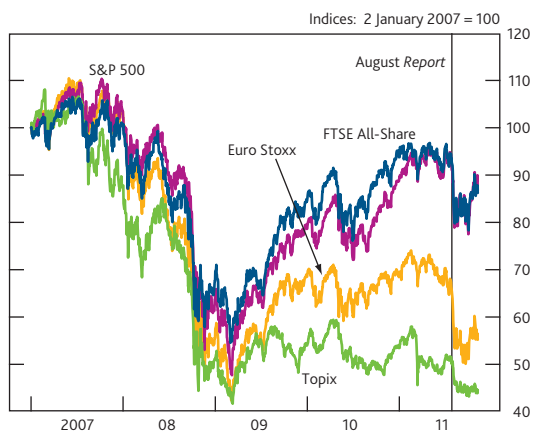
The policy decision

At its November meeting, the Committee judged that GDP growth was likely to be weak in the near term before gathering pace in 2013 and 2014. Inflation was thought to be around its peak and was set to fall back sharply through 2012. The outlook for both growth and inflation was unusually uncertain given its sensitivity to developments in the euro area. The Committee judged it appropriate at that meeting to maintain Bank Rate at 0.5% and the size of the asset purchase programme at £275 billion, in order to meet the 2% CPI inflation target over the medium term.

1 Money and asset prices

Since early August, sovereign debt concerns have intensified, the global outlook has deteriorated and investors' risk appetite has waned. The prices of riskier assets fell sharply around the time of the *August Report*. Although prices subsequently recovered somewhat during October, they have continued to be sensitive to developments in the euro area. Bank funding markets have been impaired, reflecting the perceived vulnerabilities of banks to euro-area developments. Lending to businesses and households remained weak in 2011 Q3, as did annual broad money growth. In October, the MPC voted to increase the scale of its asset purchases financed by the issuance of central bank reserves to £275 billion and to maintain Bank Rate at 0.5%.

Chart 1.1 International equity prices^(a)



Source: Thomson Reuters Datastream.

(a) In local currency terms.

For much of the period since the start of August, financial markets showed increasing signs of stress. That is likely to have been driven by concerns about the sustainability of several euro-area countries' fiscal and external positions, combined with a weakening global outlook (Section 2) and anxieties about the vulnerabilities of banks to these developments. Around the time of the *August Report*, the interaction of those issues triggered substantial falls in equity prices across the world (Chart 1.1). Equity prices subsequently recovered somewhat, but volatility in a range of markets remained elevated and conditions in bank funding markets remained impaired as investors' willingness to hold risky assets continued to wane. In the United Kingdom, the MPC expanded its programme of asset purchases (Section 1.1) and longer-term interest rates fell (Section 1.2).

Financial market conditions remained strained in the run-up to the *November Report*. New measures announced by the European authorities on 27 October provided some support to financial markets. But subsequent uncertainty about the details of the measures and political instability in Greece and Italy outweighed that improvement in sentiment.

The deterioration in financial markets since early August is likely to weigh on UK activity and inflation through a variety of channels, including a reduction in the provision of credit (Section 5). Credit conditions have remained tight (Section 1.3). And the strains in bank funding markets, if they endure, are likely to lead to an increase in the cost of bank credit and a reduction in its availability. Annual broad money growth remained weak (Section 1.4).

1.1 Monetary policy

At its October meeting, the MPC judged that the effects of heightened tensions in financial markets, alongside evidence of

Monetary policy since the August Report

The MPC's central projection 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 remained at £200 billion, was that growth was likely to remain sluggish in the near term before gently picking up. Under the same assumptions, the MPC judged that CPI inflation was likely to rise further in 2011 and was then likely to fall back during 2012 and into 2013. But the precise extent and timing of that fall were uncertain.

At the time of the MPC's meeting on 7–8 September there had been significant downside news on activity that pointed towards a synchronised slowing in global growth. In the United Kingdom, business surveys had also deteriorated markedly, especially for services. Together they pointed to materially weaker growth in the second half of 2011 than projected in the *August Report*. Indicators of consumer spending also pointed to continued weakness.

CPI inflation had risen further above the target to 4.5% in August. Inflation was expected to increase further in the coming months to over 5%, boosted by the announced increases in utility prices.

There remained substantial risks to inflation in the medium term in both directions. Overall, the Committee judged that there had been little news on the upside risk that the period of elevated inflation would persist for longer than the Committee expected. But the Committee judged that the key downside risk to inflation — that the strength of demand would prove insufficient to absorb the margin of spare capacity in the economy, causing inflation to fall materially below the target in the medium term — had clearly increased over the month.

For one member, that shift in the balance of risks to inflation had further strengthened the case for an immediate expansion of the Committee's programme of asset purchases. Other members judged that it was appropriate to maintain the current stance of monetary policy at that meeting. But, for most members, the decision of whether to embark on further monetary easing at that meeting was finely balanced. For some members, a continuation of the conditions seen over the past month would probably be sufficient to justify an expansion of the asset purchase programme at a subsequent meeting. The Committee voted unanimously to maintain Bank Rate at 0.5%. Eight members voted to keep the stock of asset purchases at £200 billion. One member preferred to increase the size of the programme by £50 billion.

At the time of the MPC's meeting on 5–6 October there had been increasingly visible symptoms of rising stress in financial markets. Available indicators also suggested that the underlying rate of growth in the United Kingdom had moderated and would be close to zero in the fourth quarter of 2011. Household spending had been weak for some time and the Committee judged that the squeeze on households' real income and the fiscal consolidation were likely to continue to weigh on domestic spending.

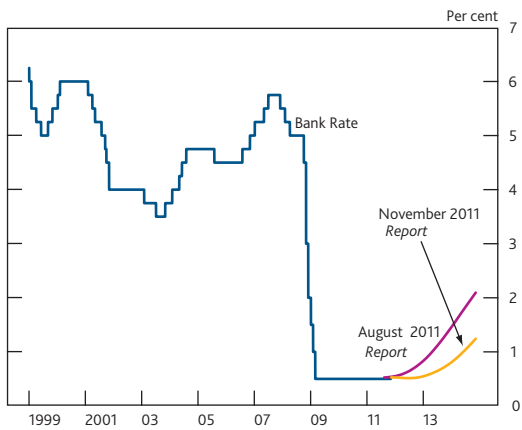
The Committee continued to judge that CPI inflation was likely to rise to above 5% in the near term. But the Committee's central view was that domestically generated inflation had remained contained and that inflation was likely to fall back sharply in 2012 as the influence of VAT, energy and import prices diminished and downward pressure from spare capacity persisted.

There had been significant downside news about the factors influencing the outlook for demand since the *August Report*: the pace of global expansion had evidently slackened, especially in the United Kingdom's main export markets; and heightened awareness of the vulnerabilities associated with the indebtedness of several euro-area governments and banks had led to a further deterioration in demand prospects. While the most extreme risks to demand had not yet crystallised, the threat of them doing so had resulted in severe strains in bank funding markets and financial markets more generally. The Committee judged that these tensions appeared to have already affected consumer and business confidence and could result in a further tightening of credit conditions, posing a threat to the recovery in the United Kingdom. There was little news over the month on the upside risks to inflation in the medium term.

The weaker outlook for, and increased downside risks to, output growth meant that the margin of slack in the economy would probably be greater and more persistent than previously thought. Overall, the case for an expansion of the Committee's programme of asset purchases was compelling.

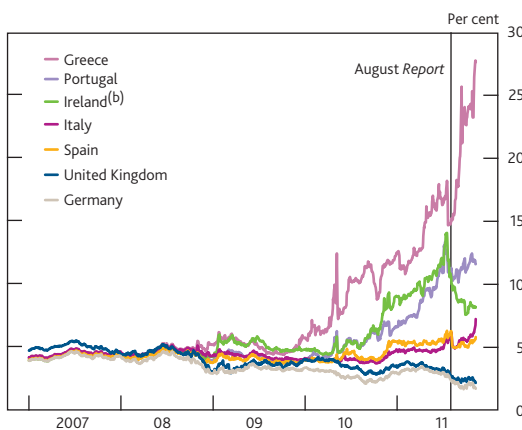
The Committee voted unanimously to maintain Bank Rate at 0.5% and finance a further £75 billion of asset purchases by the issuance of central bank reserves, implying a total quantity of £275 billion of such asset purchases. It was agreed that the asset purchases would be of nominal gilts, conducted over a four-month period, and spread evenly across residual maturities over three years.

At its meeting on 9–10 November, the Committee voted to maintain Bank Rate at 0.5%. The Committee also voted to continue with its programme of asset purchases totalling £275 billion financed by the issuance of central bank reserves.

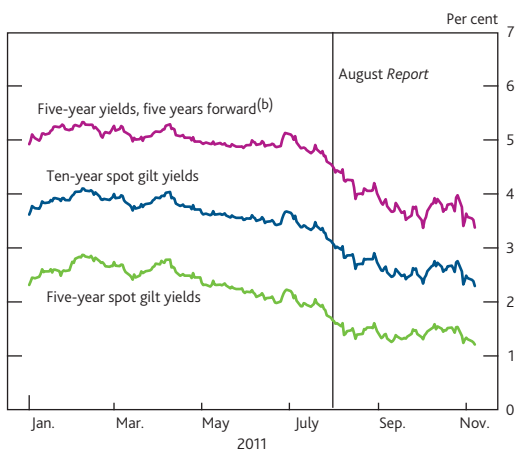
Chart 1.2 Bank Rate and forward market interest rates^(a)

Sources: Bank of England and Bloomberg.

(a) The August 2011 and November 2011 curves are estimated using overnight index swap (OIS) rates in the fifteen working days to 3 August 2011 and 9 November 2011 respectively.

Chart 1.3 Selected European ten-year spot government bond yields^(a)

Source: Bloomberg.

(a) Yields to maturity on ten-year benchmark government bonds, unless otherwise stated.
(b) Yield to maturity on the nine-year benchmark government bond between 16 March and 25 October 2007, and from 12 October 2011 onwards.**Chart 1.4** UK five-year and ten-year nominal spot gilt yields and five-year yields, five years forward^(a)

Sources: Bloomberg and Bank calculations.

(a) Zero-coupon yield.
(b) Derived from the Bank's government liability curves.

a moderation in the underlying rate of, and increased downside risks to, output growth, had made it more likely that inflation would undershoot the 2% target in the medium term. In light of that shift in the balance of risks, the MPC voted to increase the size of its asset purchase programme, financed by the issuance of central bank reserves, by £75 billion to £275 billion, and to maintain Bank Rate at 0.5%. As discussed in the box on pages 12–13, the asset purchase programme should support nominal spending through a variety of channels. For example, the purchases are likely to push up the prices of assets such as government bonds (Section 1.2), and corporate bonds and equities. That will boost households' financial wealth and improve companies' ability to access non-bank sources of finance (Section 1.3). The reasons behind the MPC's recent policy decisions are discussed in more detail in the box on page 10.

In the period leading up to the MPC's November meeting, overnight index swap (OIS) rates suggested that market participants' expectations of Bank Rate were significantly lower than at the time of the August Report (Chart 1.2). OIS rates indicated that Bank Rate was not expected to rise above 0.75% before 2013 Q4, compared with 2012 Q4 three months earlier.

The Federal Open Market Committee voted to extend the average maturity of its holdings of US Treasury securities in September. At its November meeting, the Governing Council of the European Central Bank cut policy rates by 0.25 percentage points.

1.2 Longer-term interest rates and exchange rates

Government bonds

Concerns about the sustainability of several euro-area countries' fiscal and external debt positions, and the possible implications for banking systems, have continued to be reflected in elevated yields on government debt in those countries (Chart 1.3). Greek, Irish, Italian, Portuguese and Spanish government bond yields fell on 27 October, when the European authorities announced new measures to address those concerns. The measures included: an option for private sector holders of Greek government debt to voluntarily discount their holdings by one half; proposals to leverage the resources of the European Financial Stability Facility to around €1 trillion; a mandate to European banks to increase their core Tier 1 capital ratios to 9% by the end of June 2012; and measures to strengthen euro-area economic governance. But yields have subsequently risen further in Greece, Italy and, to a lesser extent, Spain. That, in part, reflects uncertainty about the details of the measures, as well as political instability in Greece and Italy.

The effects of the MPC's asset purchases

The MPC voted at its October meeting to expand its asset purchase programme, financed by the issuance of central bank reserves, by £75 billion to £275 billion. The Bank's asset purchases — chiefly of gilts — boost the amount of money in the economy: when the Bank purchases assets from non-bank investors (either directly or indirectly via intermediate transactions), the reserve account of the investors' commercial bank is credited with central bank reserves, and the commercial bank credits the deposit account of the investor. This box explains the channels through which those purchases, and the associated increase in broad money, are likely to feed through the economy, supporting nominal demand and so enabling the MPC to meet the 2% inflation target in the medium term (Figure 1).

The transmission mechanism of asset purchases

The asset purchase programme supports nominal spending by boosting asset prices. The principal channel through which that occurs is *portfolio rebalancing* (Figure 1). Investors who sell gilts to the Bank are unlikely to view the money received as a perfect substitute for those gilts. In order for investors to be willing to hold fewer gilts, their price must therefore rise (Section 1.2). In addition, rather than holding on to all of the money that they receive from selling the gilts, investors are likely to wish to use the money to acquire other assets that are closer substitutes for gilts, such as equities and corporate bonds. The increase in demand for these assets should then push up their prices, lowering their yields. And that should enable companies to raise more funds from capital markets than they otherwise would (Section 1.3), supporting their spending.

Portfolio rebalancing could act, in part, through the exchange rate. Some investors, such as those based overseas, may view some foreign assets as the closest substitute for gilts. But in order to rebalance their portfolio from money towards those assets, they would need to exchange that money for foreign currency, passing on the money to another investor who might then use it to buy sterling assets. That exchange of sterling for foreign currency would put downward pressure on the sterling exchange rate.

As with changes in Bank Rate, asset purchases may affect asset prices through *policy signalling* (Figure 1). For example, the Bank's purchases may lead market participants to expect policy rates to remain low for longer, which also should push up asset prices.

At times of stress in financial markets, a further channel through which asset purchases may push up asset prices is by boosting *market liquidity* (Figure 1). When financial market functioning is impaired, investors are likely to demand higher

returns on assets to compensate for the risk that it may be difficult to sell those assets subsequently. The Bank's asset purchases may support trading and market liquidity and thus raise asset prices.

The increases in asset prices triggered by the Bank's asset purchases boost households' wealth and reduce the cost of borrowing for households and companies (Section 1.3), both of which should support nominal spending.

The asset purchase programme is likely to raise nominal demand through other channels too (Figure 1). Asset purchases may boost banks' holdings of liquid assets and their long-term deposit liabilities and so could support *bank lending*, although the MPC judges that this channel is likely to be weak given the current pressures faced by banks (Section 1.3). And, as with a cut in Bank Rate, the asset purchases may support *confidence*, bolstering companies' and households' willingness to spend.

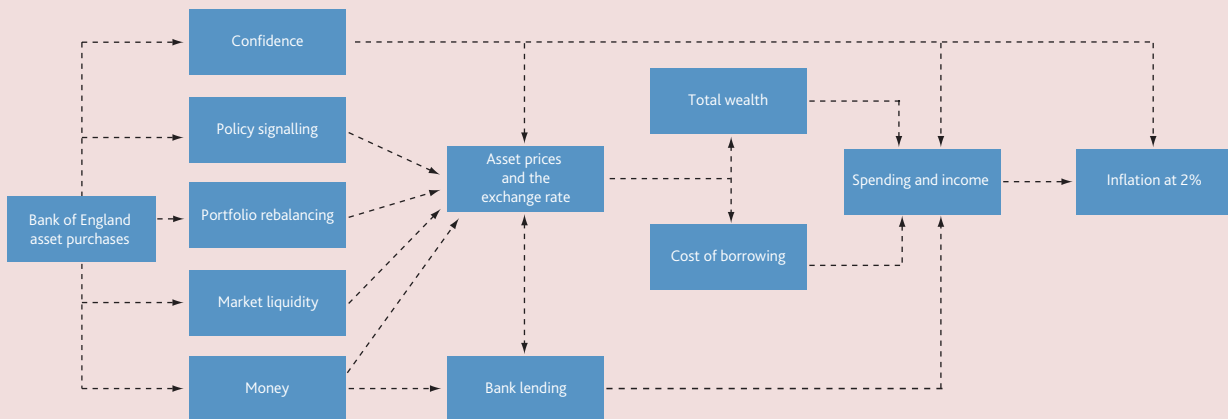
Assessing the effects of asset purchases

It is likely that the expansion of asset purchases is already affecting the economy through the channels outlined above. The effects of that expansion on gilt prices and yields are likely to have begun before the announcement on 6 October, given that market participants had increasingly come to expect the MPC to purchase further assets (Section 1.2). The prices of other assets might also have moved in advance of the Bank carrying out the planned £75 billion of purchases, as investors anticipated the effects on prices of the subsequent portfolio rebalancing. It remains difficult, however, to separate precisely the effects of policy changes from the impact of other developments in the economy, especially at a time of heightened volatility.

Evidence drawn from the Bank's previous asset purchases, which was reviewed in an article in the Bank's 2011 Q3 *Quarterly Bulletin*,⁽¹⁾ suggested that those purchases had economically significant effects. Although there is considerable uncertainty about the precise effects, the £200 billion of asset purchases is estimated to have reduced gilt yields by around 100 basis points, pushed down medium to long-term sterling corporate bond yields by a similar amount, and also supported equity prices. Estimates from a range of empirical methods suggest that, overall, the purchases may have increased the level of real GDP by 1½% to 2% and increased inflation by ¾ to 1½ percentage points.

There is no strong reason to expect the economic effect of the recent expansion of asset purchases to be materially different from that of the initial rounds. But there is uncertainty around that judgement: there have been only a few previous rounds of purchases, so it is difficult to know how sensitive the effect of purchases is to other aspects of the economic environment.

Figure 1 Stylised transmission mechanism for asset purchases

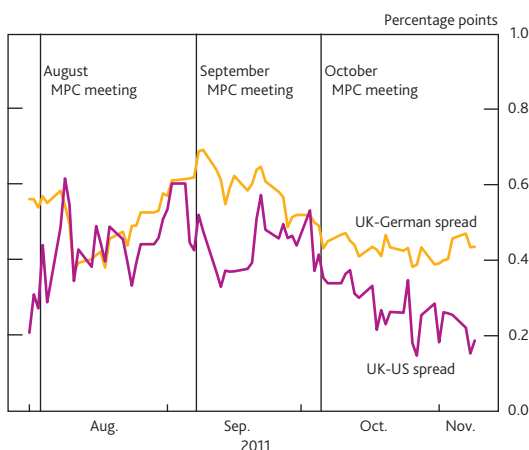


For example, gilt yields are lower than when the Bank previously purchased assets, which may limit their scope to fall, and capital markets are not as dysfunctional as in 2009, which may limit the effects from improved market liquidity. But longer-term interest rates do have some scope to fall: in the period before expectations of further asset purchases started building, the low level of yields mostly reflected low near-term interest rates, while forward rates were higher (Chart 1.4). And yields on riskier assets are in any case higher

than the yields on gilts (Chart 1.7). Moreover, whatever current market conditions, demand for riskier assets should nonetheless be boosted as investors who have sold gilts rebalance their portfolios.

(1) Joyce, M, Tong, M and Woods, R (2011), 'The United Kingdom's quantitative easing policy: design, operation and impact', *Bank of England Quarterly Bulletin*, Vol. 51, No. 3, pages 200–12.

Chart 1.5 UK gilt yields relative to yields on German and US government debt^(a)



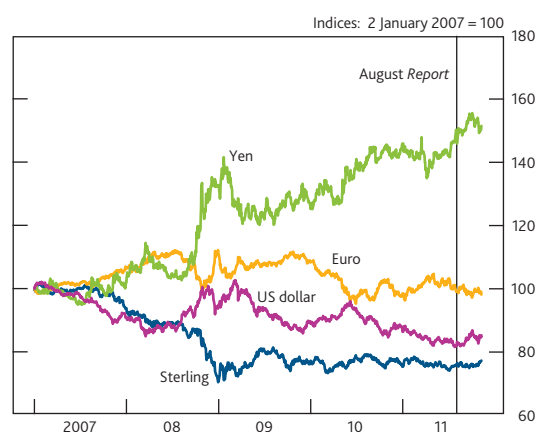
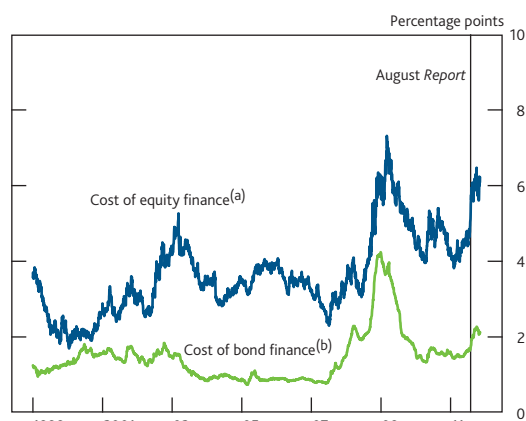
Sources: Bloomberg and Bank calculations.

(a) Spread between ten-year spot zero-coupon yields.

Anxieties about the near-term global outlook and rising risk aversion are likely to have pushed down government bond yields in the United Kingdom, Germany and the United States. For example, UK ten-year bond yields fell to historically low levels in the run-up to the November Report and were around 0.8 percentage points lower than in the run-up to the August Report (Chart 1.4).

As explained in the box on pages 12–13, the expansion of the asset purchase programme will have pushed down UK government bond yields. But the timing of that effect is uncertain and other developments, such as the changing global outlook, may have masked the impact of asset purchases on gilt yields.

Over August and September, financial market participants increasingly came to expect that the MPC would expand asset purchases in either October or November: respondents to a Reuters poll conducted on 28 September, on average, judged that there was a three-in-four chance that the MPC would expand asset purchases at some point. That increase in the perceived likelihood of further asset purchases is likely to have pushed down gilt yields (Chart 1.4). Consistent with that, gilt yields fell relative to yields on German government debt in the period following the MPC's September meeting (Chart 1.5); gilt yields were more stable relative to US government bond yields, possibly because the Federal Reserve was also transacting in bond markets at that time (Section 1.1).

Chart 1.6 International nominal effective exchange rates**Chart 1.7** Non-financial companies' cost of capital market finance relative to government bond yields

Sources: Bank of America/Merrill Lynch, Bloomberg, Thomson Reuters Datastream and Bank calculations.

- (a) Estimated using the annual dividend yields of UK non-financial companies in the FTSE All-Share index and by assuming that nominal dividends grow at 5% per annum. Spread relative to ten-year government bond yield.
- (b) Option-adjusted spread of non-financial companies' sterling investment-grade corporate bond yields over equivalent-maturity government bonds. Excludes utility companies.

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

£ billions	Monthly averages				
	2003–08	2009	2010	2011 H1	2011 Q3
Equities					
Net issuance	-0.7	2.6	0.7	-0.7	-1.5
Gross issuance	0.8	2.7	1.0	0.4	0.3
Repayments	1.5	0.0	0.3	1.1	1.8
Corporate bonds^(b)					
Net issuance	1.1	1.5	-0.2	1.0	0.8
Gross issuance	2.6	4.3	1.9	2.8	1.5
Repayments	1.5	2.8	2.1	1.7	0.6
Commercial paper					
Net issuance	0.0	-0.6	-0.1	0.3	-0.2
Gross issuance	4.4	3.3	2.2	1.5	1.5
Repayments	4.4	3.9	2.3	1.2	1.7

(a) Averages of monthly flows of sterling and foreign currency funds. Due to rounding, net issuance may not equal gross issuance minus repayments. Data are non seasonally adjusted.

(b) Includes stand-alone and programme bonds.

Despite the anticipation of further asset purchases among financial market participants, the Reuters poll on 28 September suggested that the MPC's announcement on 6 October contained some news about the total size of asset purchases. Although gilt yields rose on that day, they increased by less than yields on German and US government bonds (Chart 1.5) — consistent with the downward pressure from the larger-than-expected announced programme of purchases being more than offset by upward pressure from improved sentiment about the global outlook that day.

Exchange rates

The sterling effective exchange rate index (ERI) appreciated by 1% between the August and November Reports (Chart 1.6). It is likely that the expansion of asset purchases has weighed on sterling: for example, the ERI depreciated by 0.7% on 6 October. But, as with gilt yields, it is hard to judge the precise size and persistence of that effect, as sterling is also likely to have been influenced by other developments. Since the August Report, the US dollar has appreciated by around 2% and the yen by 3%. The euro has depreciated by 1%, and options prices suggest that market participants have become more concerned about the chance of a more marked depreciation.

1.3 The provision of credit

The deterioration in the global outlook since early August and the rise in uncertainty connected with the euro area have affected businesses' access to capital market finance. And the terms on which banks can raise funding have worsened, reflecting concerns about the implications of recent global developments for banks' balance sheets. But that does not, so far, appear to have fed through into a material tightening in credit conditions for businesses and households.

Corporate capital markets

As uncertainty about the global outlook has increased, so investors have become less willing to hold risky assets. That has been reflected in equity prices, which fell significantly in early August and, despite some recovery during October, remained below their 2011 H1 levels in the run-up to the November Report (Chart 1.1).

The decline in risk appetite has affected the cost of corporate bond and equity finance, which depends on both the return on a relatively safe asset, such as a highly rated government bond, and the excess return — or risk premium — that investors require to hold assets that offer a more uncertain return. These risk premia have risen since the start of August (Chart 1.7). For equities, that appears to have more than offset the fall in the ten-year government bond yield, so that the cost of equity finance was a little higher in the run-up to the November Report. But, perhaps reflecting their less risky nature, the rise in the risk premium on corporate bonds has

been smaller. Indeed, given the falls in government bond yields, the cost of bond finance has changed little.

Gross equity issuance by UK private non-financial corporations (PNFCs) remained relatively weak in 2011 Q3 (**Table 1.A**). The rise in the cost of equity finance, and the more general volatility in financial markets, may have weighed on issuance. Consistent with that, the proportion of companies responding to the *Deloitte CFO Survey* who thought that now was a good time to issue equity declined sharply in Q3. Companies' gross issuance of bonds in 2011 to date has, on average, been only a little lower than its 2003–08 average (**Table 1.A**). As explained in the box on pages 12–13, the MPC's programme of asset purchases should improve companies' ability to access capital market finance.

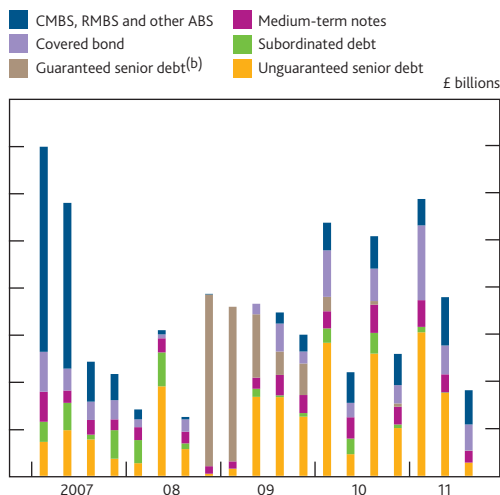
Chart 1.8 UK banks' indicative longer-term funding spreads



Sources: Bank of England, JPMorgan Chase & Co., Markit Group Limited and Bank calculations.

- (a) The data show a simple average of the five-year CDS premia of Barclays, HSBC, Lloyds Banking Group, Nationwide, Royal Bank of Scotland and Santander UK.
 (b) The data show a simple average of the spread between covered bonds with a maturity of between three and five years issued by UK banks and equivalent-maturity swap rates.

Chart 1.9 Term issuance by the major UK lenders in public markets^(a)



Sources: Bank of England, Dealogic and Bank calculations.

- (a) Data are as at 9 November 2011. Data are shown at a quarterly frequency, the final observation is 2011 Q3. Includes debt issued by Banco Santander, Bank of Ireland, Barclays, Co-operative Financial Services, HSBC, Lloyds Banking Group, National Australia Bank, Nationwide, Northern Rock and Royal Bank of Scotland. Term issuance refers here to securities with an original contractual maturity or earliest call date of at least 18 months. It includes subordinated lower Tier 2 and Tier 3 capital instruments with debt features.
 (b) Senior debt issued under HM Treasury's Credit Guarantee Scheme.

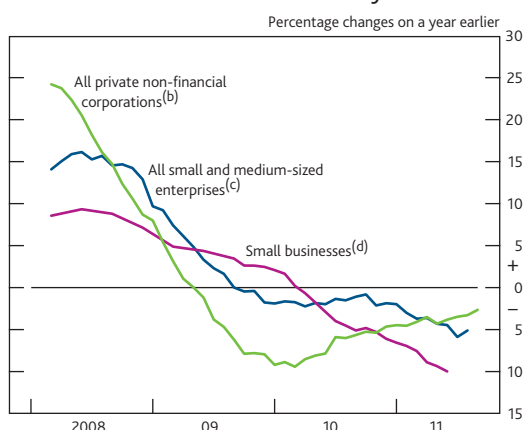
Bank funding

The extent to which the deterioration in the global outlook, and tensions in financial markets, weigh on UK demand will depend, in part, on how they affect banks' funding. Banks' ability to raise funding will influence their capacity to lend and the terms on that lending, which, in turn, will affect companies' and households' spending decisions (Section 2).

Concerns over the pace of global growth, and over the exposure of European banks to the debts of vulnerable euro-area countries, coupled with the rise in risk aversion, have impaired UK banks' access to long-term unsecured funding. The average of the major UK banks' five-year credit default swap (CDS) premia, an indicator of long-term unsecured wholesale funding spreads, rose significantly over August and September (**Chart 1.8**). Although CDS premia fell back for a few days following the announcement by the European authorities on 27 October, they subsequently increased again and, on average, they remained 0.6 percentage points higher in the run-up to the *November Report* than at the time of the *August Report*. Banks issued almost no unsecured term debt in public wholesale markets in 2011 Q3 (**Chart 1.9**) and market contacts suggested that these markets effectively remain closed to all but the highest-quality banks. Issuance of long-term unsecured debt in private markets slowed in September, according to reports from market contacts.

To some extent, banks have been able to mitigate those strains by continuing to issue debt secured against bank assets in September and October. But the cost of secured funding, such as covered bonds, remains higher relative to reference rates than at the time of the *August Report* (**Chart 1.8**). Moreover, banks are unlikely to be able to rely solely on secured issuance to meet their future funding needs.

Although banks have faced difficulties in obtaining funding, that is likely to have happened too recently to be widely evident yet in the cost and availability of bank credit. In part, that is because banks take time to change their loan rates in

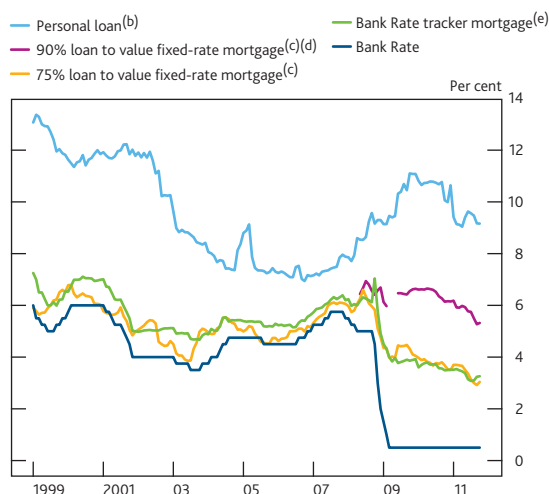
Chart 1.10 Loans to UK businesses by size^(a)

Sources: Bank of England, British Bankers' Association (BBA), Department for Business, Innovation and Skills (BIS) and Bank calculations.

- (a) Rate of growth in the stock of loans. Data are non seasonally adjusted.
 (b) Data cover both sterling and foreign currency loans. The latest observation is September 2011.
 (c) BIS data and Bank calculations. Stock of sterling and foreign currency lending, expressed in sterling terms, by four UK lenders to enterprises with an annual bank account debit turnover of less than £25 million. The latest observation is August 2011.
 (d) BBA data. Stock of sterling lending by seven UK lenders to commercial businesses with an annual bank account debit turnover of up to £1 million. Data are quarterly until September 2009 and monthly thereafter. The last observation is June 2011: www.bba.org.uk/statistics/article/small-business-support-december-2010/small-business/.

Table 1.B Loans to individuals

	Averages				
	1997–2008	2009	2010	2011 H1	2011 Q3
Average monthly net flow (£ billions)					
Total lending	7.1	1.0	0.9	1.2	1.0
Secured on dwellings	5.6	1.0	0.6	0.8	0.5
Credit card	0.5	0.2	0.2	0.2	0.1
Other unsecured	1.0	-0.2	0.1	0.2	0.4
One-quarter annualised growth rate (per cent)					
Total lending	10.1	0.8	0.8	1.0	0.8
Secured on dwellings	9.6	0.9	0.6	0.8	0.5
Credit card	16.4	4.4	3.3	3.7	2.7
Other unsecured	11.2	-1.1	0.5	1.8	2.9

Chart 1.11 Bank Rate and average quoted interest rates on new household borrowing^(a)

- (a) Sterling-only end-month average quoted rates. The Bank's quoted interest rates series are weighted averages of rates from a sample of banks and building societies with products meeting the specific criteria (see www.bankofengland.co.uk/mfsd/iadb/notesiadb/household_int.htm). Data are non seasonally adjusted.
 (b) Quoted interest rate on a £10,000 personal loan.
 (c) Two-year fixed-rate mortgage.
 (d) Series is only available on a consistent basis back to May 2008, and is not published for March to May 2009 as fewer than three products were offered in that period.
 (e) On mortgages with a loan to value ratio of 75%.

response to changes in funding costs. In addition, market intelligence indicated that, in the current uncertain environment, banks were waiting to see whether the deterioration in funding conditions persisted before making any changes to the cost and supply of loans, especially since many of them had largely already met their long-term wholesale funding targets for 2011.

If they persist, the strains in bank funding markets may lead to a contraction in the supply of bank credit (Section 5). If banks are unable to raise long-term funding at reasonable cost, then they may reduce the size of their balance sheets. One way in which they could do that is by curtailing the amount that they lend to businesses and households, through reductions in the availability of credit or increases in loan rates. That would follow a period in which credit conditions have already been relatively tight and loan growth subdued.

Bank lending to companies

Bank lending to UK companies remained weak in 2011 Q3 (Chart 1.10). Reflecting that, and the weakness in equity issuance (Table 1.A), PNFCs continued to make net repayments of external finance.

Reports from the Bank's Agents and evidence from the *Credit Conditions Survey* suggest that the cost and availability of bank credit remained tight for smaller businesses.⁽¹⁾ According to the most recent data from the Department for Business, Innovation and Skills, the stock of loans to smaller businesses continued to fall over the past year (Chart 1.10). Smaller businesses often have limited access to other sources of finance and so are likely to be more vulnerable than larger ones if banks tighten credit conditions further in response to higher funding costs.

There has been some improvement in bank credit conditions for larger businesses since 2009. For example, results from the *Credit Conditions Survey* indicate that spreads on loans to larger companies have narrowed over the past two years. And the proportion of respondents to the *Deloitte CFO Survey* reporting that bank credit is an attractive form of finance has risen since early 2009.

Bank lending to households and the housing market

Growth in the total stock of loans to individuals remained weak in 2011 Q3. That reflected subdued growth both in the stock of mortgage debt, which accounts for the majority of household debt, and in the stock of unsecured loans (Table 1.B).

Household credit conditions appear to remain tighter than before the financial crisis. Although quoted mortgage rates

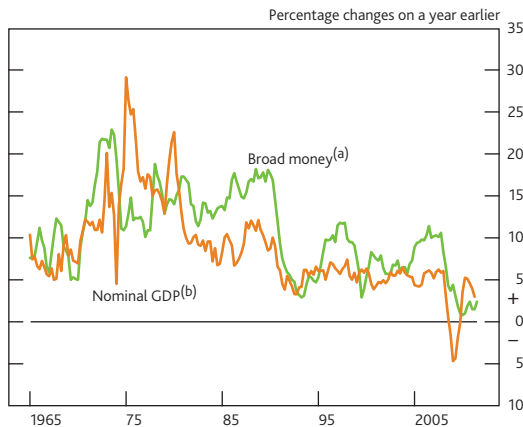
(1) Recent developments in lending to small and medium-sized enterprises are discussed in the box on pages 7–8 of *Trends in Lending*, October 2011, available at www.bankofengland.co.uk/publications/other/monetary/TrendsOctober11.pdf.

Table 1.C Housing market indicators

	Averages since 2000 ^{(a)(b)}	2010 ^(a)	2011			
			Q1 ^(a)	Q2 ^(a)	Q3 ^(a)	Oct.
Activity						
Property transactions (000s) ^(c)	98	73	72	70	69	n.a.
Mortgage approvals (000s) ^(d)	88	48	47	47	51	n.a.
RICS sales to stock ratio ^(e)	0.36	0.25	0.22	0.21	0.21	0.21
			Average monthly changes			
	Change 2007 Q4– 2011 Q3	2010	2011			
			Q1	Q2	Q3	Oct.
Prices^(f)						
Halifax	-17.4	-0.3	0.0	0.2	-0.4	1.2
Nationwide	-10.5	0.0	0.2	0.0	-0.1	0.4
Communities and Local Government ^(g)	-5.3	0.2	0.1	-0.5	0.4	n.a.
Land Registry ^(h)	-11.0	0.1	-0.2	-0.2	0.3	n.a.

Sources: Bank of England, Department for Communities and Local Government, Halifax, HM Revenue and Customs, Land Registry, Nationwide, Royal Institution of Chartered Surveyors (RICS) and Bank calculations.

- (a) Averages of monthly data.
 (b) Except for property transactions, which is an average since April 2005.
 (c) Number of residential property transactions with value £40,000 or above.
 (d) Loan approvals for house purchase.
 (e) Ratio of sales recorded over the past three months to the level of stock on estate agents' books at the end of the month.
 (f) Percentage changes.
 (g) 2011 Q3 estimate is an average of data for July and August.
 (h) Data relate to England and Wales only.

Chart 1.12 Broad money and nominal GDP

- (a) The series is constructed using headline M4 growth prior to 1998 Q4, and M4 growth excluding intermediate other financial corporations (OFCs) thereafter. 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. The latest observation is 2011 Q3.
 (b) At current market prices. The latest observation is 2011 Q2.

and personal loan rates have edged down over the past two years (**Chart 1.11**), the cost of new borrowing remains significantly above reference rates such as Bank Rate or swap rates — in part reflecting the increase in bank funding costs since the onset of the financial crisis. And lenders responding to the *Credit Conditions Survey* reported that credit availability for households only increased a little over the past year.

The tightening in household credit conditions since the onset of the financial crisis has contributed to continued weakness in housing market activity (**Table 1.C**). Although approvals for house purchase rose slightly in 2011 Q3, they, and property transactions more generally, remain very low compared with historical averages. House prices have been broadly unchanged over the past year. Indicators of future housing market activity have picked up a little since the *August Report*, but remained weak.

1.4 Money

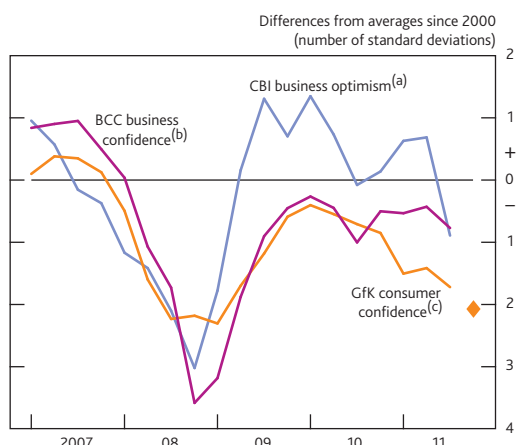
Four-quarter growth in broad money — at 2.4% in 2011 Q3 — has remained subdued over the past year, relative both to its average in the decade prior to the recession and to nominal GDP growth (**Chart 1.12**).

The expansion of the asset purchase programme should boost broad money and support spending. As explained in the box on pages 12–13, that is likely to be seen initially in the deposits of the non-bank investors that sell gilts, either directly or indirectly, to the Bank, before flowing into the deposits of companies and households. Some companies and households might choose to use that money to repay outstanding bank loans. For example, asset purchases might ease stresses in capital markets and enable larger companies to repay loans by issuing equity or bonds instead. Any such repayment of bank loans would offset some of the increase in the stock of money from the Bank's asset purchases. But, by facilitating balance sheet repair, it would nevertheless still support spending.

2 Demand

The pace of global expansion slowed and confidence fell. Concerns about the solvency of several euro-area countries intensified. Demand for UK exports weakened as global growth prospects deteriorated. The rise in uncertainty and the likelihood of tighter credit conditions, along with the fiscal consolidation and continuing squeeze on households' real incomes, are likely to restrain spending by UK households and businesses in the near term. But the highly stimulative stance of monetary policy should provide some support to spending.

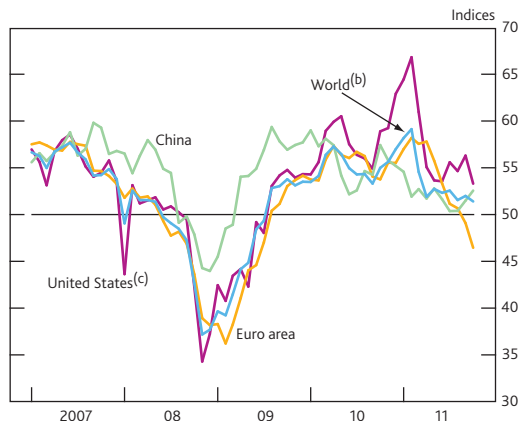
Chart 2.1 UK business and consumer confidence



Sources: BCC, CBI, CBI/PwC, research carried out by GfK NOP on behalf of the European Commission, ONS and Bank calculations.

- (a) Data for manufacturing, financial and consumer/business services surveys are weighted using shares in nominal value added.
 (b) Confidence about turnover. Data for manufacturing and services surveys are weighted using shares in nominal value added. Data are non seasonally adjusted.
 (c) This aggregate confidence index is derived by averaging the answers to questions 1, 2, 3, 4 and 8 in the GfK NOP survey carried out on behalf of the European Commission. Quarterly averages of monthly data. The diamond shows data for October.

Chart 2.2 Survey measures of global output growth^(a)



Sources: HSBC, JPMorgan Chase & Co., Markit Economics, US Bureau of Economic Analysis and US Institute for Supply Management (ISM).

- (a) A figure over 50 indicates rising output compared with the previous month, and a figure below 50 indicates falling output.
 (b) Based on the results of surveys in almost 30 countries, accounting for an estimated 86% of global GDP.
 (c) Manufacturing production and non-manufacturing business activity ISM survey indices, weighted together using their nominal shares in value added.

In the United Kingdom, GDP grew by 0.1% in 2011 Q2 and is provisionally estimated by the ONS to have risen by 0.5% in Q3. But quarterly growth has been affected by temporary factors that reduced growth in Q2 and boosted it in Q3 (Section 3). Abstracting from temporary factors, underlying demand growth has been sluggish during the first three quarters of 2011. In part, that reflects falling household real incomes and the effects of the continuing fiscal consolidation. Recent revisions to GDP and its components are described in the box on pages 20–21.

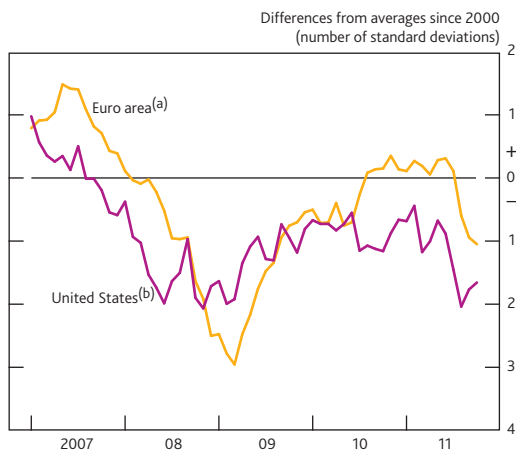
Prospects for the global economy have deteriorated since the *August Report* (Section 2.1). The pace of global growth slowed in 2011 Q2 and business surveys suggest that it remained weak in Q3. There has been a widespread fall in confidence across advanced economies, following an intensification of concerns about the sustainability of the fiscal and external positions of several euro-area countries and related anxieties about the vulnerabilities of banks.

Developments in the world economy are likely to mean that underlying UK growth has weakened further. The slowing in global demand will reduce export growth. And if stresses in bank funding markets lead to tighter credit conditions for households and companies (Section 1), domestic demand growth may be impaired too (Section 2.2). Associated falls in UK business and consumer confidence (Chart 2.1) may also weigh on domestic demand.

2.1 External demand and UK trade

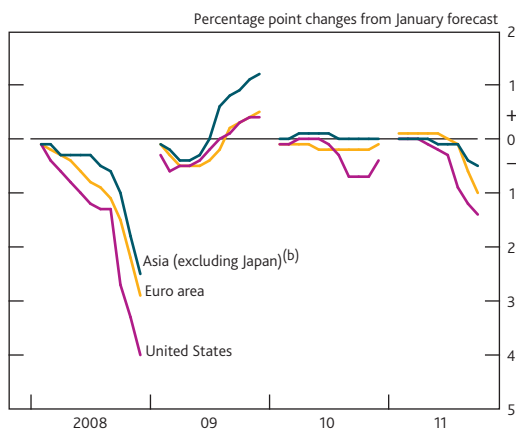
Recent developments in global growth

Global demand growth slowed in 2011 Q2, and business surveys suggest that growth remained weak in Q3 (Chart 2.2). Temporary factors such as the Japanese earthquake and tsunami and the resulting disruption to global supply chains account for some of the slowing in Q2. But indicators of continued weakness in Q3 point to a more persistent slowing

Chart 2.3 Euro-area and US consumer confidence

Sources: European Commission and Thomson Reuters Datastream.

- (a) European Commission consumer confidence indicator.
(b) University of Michigan consumer sentiment index. Data are non seasonally adjusted.

Chart 2.4 Revisions to Consensus GDP growth forecasts for the next calendar year^(a)

Source: Consensus Economics. For further information on Consensus forecasts, see www.consensus-economics.co.uk.

- (a) Cumulative changes to forecasts for growth in the next calendar year since January forecast. For example, data for 2011 are revisions to forecasts for 2012 calendar-year growth relative to the January 2011 forecast. The latest forecasts were released on 14 October 2011.
(b) China, Hong Kong, India, Indonesia, Malaysia, Philippines, Singapore, South Korea, Sri Lanka, Taiwan, Thailand and Vietnam.

in global growth. In particular, rising concerns during the summer about the sustainability of the fiscal and external debt positions of several euro-area countries and anxieties about banks' vulnerabilities led to strains in financial markets (Section 1) and are likely to have reduced the pace of world growth. The deterioration in the prospects for global demand and increased uncertainty about the outlook are likely to have borne down on confidence (Chart 2.3).

Consistent with the slowdown being more persistent than previously thought, forecasts for global growth in 2012 have been revised down. Consensus forecasts for US and euro-area output growth in 2012 have both been reduced by around 1 percentage point since July. Forecasts for Asia have also been revised down on average, although by somewhat less (Chart 2.4).

The euro area

Euro-area growth slowed from 0.8% in 2011 Q1 to 0.2% in Q2. That mostly reflected weaker growth in countries such as Germany, where growth was previously robust. Growth in those countries affected by concerns over their fiscal and external debt sustainability has generally been low throughout the past year.

The slowing in euro-area growth in Q2 may partly reflect erratic factors, but growth is likely to remain weak in the near term. Measures of confidence have fallen, some countries have announced further fiscal tightening and the latest euro-area *Bank Lending Survey* pointed to a tightening in credit conditions in Q3. Perhaps reflecting those factors, recent business surveys implied a further weakening in growth in Q3.

The package of measures announced on 27 October (Section 1) briefly led to some lessening in the immediate pressures on the most vulnerable euro-area countries. But that subsequently reversed, given uncertainty about the details of the measures and political instability in Greece and Italy. Several countries still face a severe challenge in improving their competitiveness and ensuring their fiscal and external solvency. That is likely to act as a continuing drag on growth. And there remains a risk that concerns around internal and external indebtedness could intensify.⁽¹⁾ That could lead to a more pronounced slowing in activity in the euro area and in the global economy if it leads to additional falls in confidence and higher bank funding costs.

The United States

US GDP grew by 0.6% in 2011 Q3, having risen by just 0.4% in the first half of the year. The latest Institute for Supply Management activity indices are consistent with modest growth continuing in Q4 (Chart 2.2). But weak household

(1) The implications of a further intensification are discussed in a box on page 38 of the August 2011 Report.

Revisions to the National Accounts

The 2011 Q2 Quarterly National Accounts included revisions to GDP and its components. Those revisions reflected the 2011 *Blue Book* process — an annual updating of GDP data to incorporate new information and any methodological changes. This box summarises the changes and the revisions to the data.⁽¹⁾

Sources of revisions in *Blue Book 2011*

The 2011 edition of the *Blue Book* contained significant changes to some statistical methods. The scope of the changes was wider than in recent years. These included: the introduction of new industrial and product classifications; replacing retail prices index (RPI) series with consumer prices index (CPI) series for the purposes of deflation in relevant series; and improvements to financial services statistics. The methodological changes introduced have led to data revisions back to 1997, but the changes have not yet been applied prior to 1997.

The *Blue Book* also incorporates a wider range of information than is used to produce early estimates of the National Accounts. In particular, the 2011 *Blue Book* incorporates new annual data from Her Majesty's Revenue and Customs (HMRC) for 2008 and 2009 and it contains the first balanced estimates of output, income and expenditure for 2009. Estimates for 2007 and 2008 have also been fully rebalanced.

GDP revisions resulting from the switch to CPI-based deflators

Following the methodological changes introduced in the *Blue Book*, annual GDP growth has been revised up by an average of 0.3 percentage points between 1998 and 2006 — the period over which revisions reflect only methodological changes. These revisions will in large part reflect the switch to using deflators based on CPI rather than RPI. For about two thirds of household consumption, volumes are not measured directly, but are inferred from nominal values deflated by an appropriate price index. This approach is also used to a lesser extent in estimating real growth in other expenditure components. Since the relevant CPI deflators tend to grow more slowly than the corresponding RPI deflators,⁽²⁾ moving to CPI deflation implies smaller increases in prices and larger increases in volumes for items where only nominal expenditure is measured. This change therefore implies upward revisions to real GDP growth from 1997, concentrated in consumption (Table 1).

Since the ONS will continue to measure GDP using the new methodology, GDP growth is likely to be higher in the future than it would have been using the previous method. This has implications for the MPC's latest growth forecast (Section 5). If the methodological changes have the same effect over the

Table 1 Revisions to contributions of expenditure components to annual GDP growth^(a)

Percentage points	1998–2006 average	2007	2008	2009	2010
GDP	0.3	0.8	-1.0	0.5	0.4
Household consumption ^(b)	0.2	0.3	-1.2	-0.2	0.2
Investment	0.0	0.0	0.1	0.4	-0.2
Government consumption	0.1	-0.1	0.0	-0.2	0.1
Inventories	0.0	0.1	0.1	0.2	-0.2
Net trade ^(c)	0.0	0.4	0.1	0.3	0.3

(a) Revisions to contributions to calendar-year GDP growth at market prices (chained-volume measures).

(b) Includes non-profit institutions serving households.

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

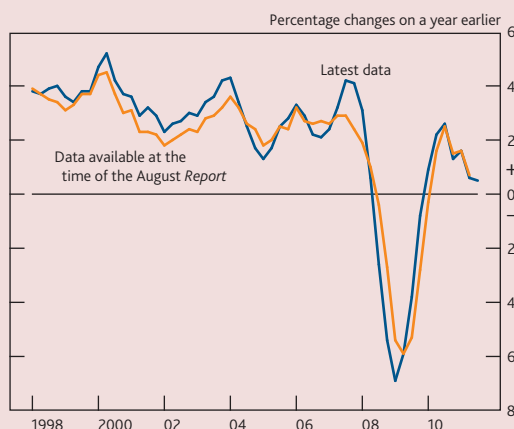
future as they did over the 1998 to 2006 period, on average, then a projection for 2% GDP growth at the time of the August *Report* might now be equivalent to a projection of around 2.3% under the new methodology. But these changes have no implications for the United Kingdom's underlying economic performance. Nor do they affect the balance between demand and supply because they also imply correspondingly faster growth in supply capacity.

There is currently a break in the real GDP data between 1996 Q4 and 1997 Q1 because the methodological changes have not yet been applied before 1997. Data are therefore no longer directly comparable over these two periods. But it is likely that measured GDP growth before 1997 would be higher, on average, than is currently estimated were the new methodology to be applied. The ONS intends to address this issue in future work.

GDP revisions resulting from new data

The recent recession is now estimated to have been deeper following faster growth in 2007 (Chart A). The total fall in GDP from its 2008 Q1 peak has been revised from 6.4% to 7.1%. But there were also upward revisions to growth in the early stages of the recovery, which is now estimated to have begun a quarter earlier.

Chart A GDP at market prices^(a)



(a) Chained-volume measures.

Although GDP data from 2007 onwards are also affected by the methodological changes, these revisions primarily reflect new data. In particular, new HMRC data showed that corporate profits were lower than previously believed over 2008 as a whole. That led to downward revisions to GDP in all quarters of 2008.

The balanced nature of the National Accounts means that the lower GDP implied by lower income must also be reflected on the output and expenditure sides of the accounts. The revisions to GDP in 2008 were primarily accounted for by lower services output. On the expenditure side of the accounts, the large downward revisions to GDP growth in 2008 were overwhelmingly in consumption (**Table 1**). There were also notable revisions in other years to investment and trade: net trade was revised up from 2007; and there were upward revisions to investment in the early quarters of the recovery.

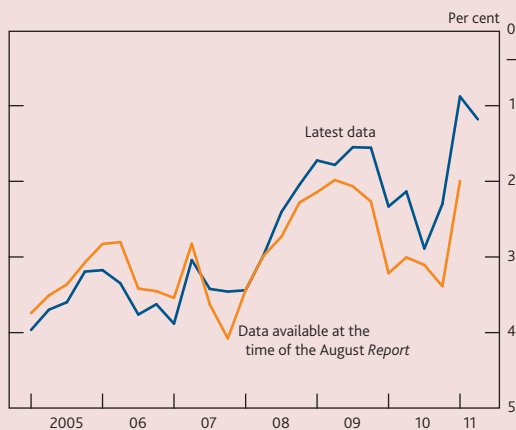
Overall, the level of GDP in 2011 Q2 was revised up, but by less than the MPC's central expectation at the time of the *August Report*. The time profile of revisions was also different to what was expected. The box on page 32 summarises how the revisions have changed the MPC's view of the past.

Implications of the revisions

Data revisions have the potential to alter the interpretation of the past and to resolve puzzling features in the previous vintage of data. Two puzzles highlighted in the *August Report* were the surprising recent weaknesses in net trade and in labour productivity growth.⁽³⁾

Upward revisions to net trade help to resolve its previously puzzling behaviour. Net trade is now estimated to have been materially stronger since the 25% depreciation of sterling which began in mid-2007 (**Chart B**). The size of the improvement in net trade is now more consistent with the behaviour of net trade following earlier large movements in

Chart B Net trade as a percentage of GDP^(a)



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

sterling — the depreciation in 1992 and appreciation in 1996. The revisions partly reflect lower imports since 2007 following revisions to the import deflator. But higher services exports explain a significant proportion of the upward revisions to net trade over the recent past. The new data are more consistent with survey evidence, which indicated stronger services exports than shown in the previous vintage of data.

In contrast, data revisions have, if anything, made the recent path of productivity even more puzzling. Hourly productivity in 2011 Q1 is now estimated to have been 1.2% further below its 2008 Q1 level. And upward revisions to growth before 2008 add around another percentage point to the current shortfall in productivity relative to its trend over the previous decade. Section 3 contains further discussion of the recent weakness in productivity.

The downward revisions to consumption are also large enough to alter the interpretation of household behaviour during the recession. Revisions to household income were more modest and therefore lower consumption implies that households have saved more than previously thought since 2008. The household saving ratio is, on average, now 1.7 percentage points higher since 2008 than previously estimated (**Chart C**). Higher saving could reflect both more precautionary saving in response to heightened uncertainty or a larger downward adjustment in spending by households to the reduction in expected future earnings associated with the banking crisis (Section 2).

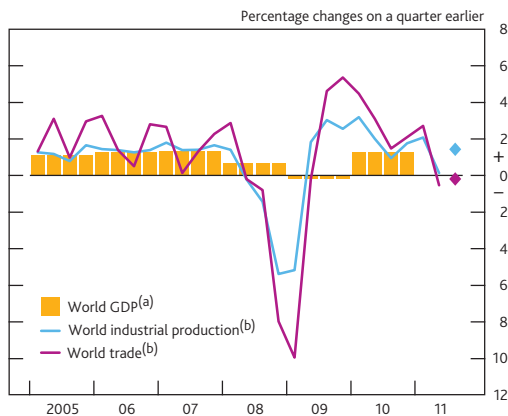
Chart C Household saving ratio^(a)



(a) Percentage of household post-tax income (not adjusted for the impact of Financial Intermediation Services Indirectly Measured).
(b) Recessions are defined as at least 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.

- (1) For further details on the changes see Everett, G (2011), 'Methods changes in the 2011 Blue Book'.
- (2) CPI deflators tend to grow more slowly than RPI deflators because of a 'formula effect' relating to the way in which individual prices are aggregated. But differences in coverage and weights may also lead to differences between some CPI and RPI deflators. See ONS (2011), 'History of and differences between the consumer prices index and retail prices index' for more details.
- (3) See the box on pages 22–23 of the August 2011 *Report*.

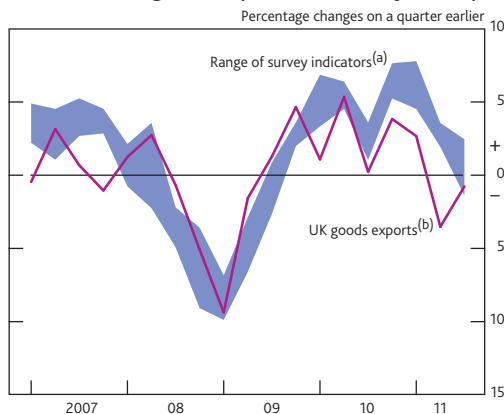
Chart 2.5 World GDP, world industrial production and world trade



Sources: CPB Netherlands Bureau for Economic Policy Analysis and IMF *World Economic Outlook*.

- (a) At constant prices. Constructed by the IMF using purchasing power parity exchange rates. Composed of 184 countries. The chart shows average quarterly growth rates within each year implied by calendar-year data. Latest data are for 2010.
- (b) Volume measures. Constructed by CPB Netherlands. Country data are weighted using shares in world production and world trade respectively. The diamonds show growth between the three months to May and three months to August.

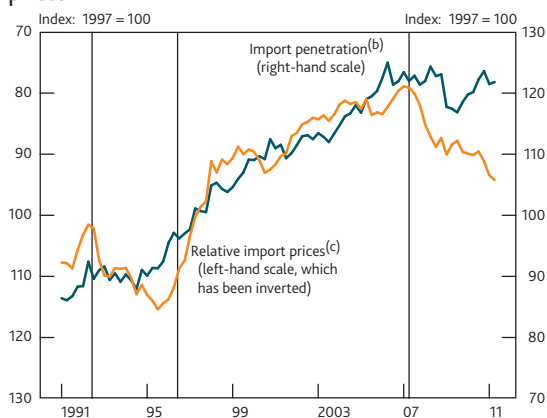
Chart 2.6 UK goods exports and surveys of export orders



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

- (a) Includes measures of manufacturing export orders from BCC, CBI and CIPS/Markit scaled to match the mean and variance of goods export growth since 2000. BCC data are non seasonally adjusted.
- (b) Excluding the estimated impact of missing trader intra-community (MTIC) fraud.

Chart 2.7 UK import penetration and relative import prices^(a)



Sources: ONS and Bank calculations.

- (a) The vertical lines mark the beginning of major nominal exchange rate movements that began in 1992 Q3 (a depreciation), 1996 Q2 (an appreciation) and 2007 Q3 (a depreciation).
- (b) UK imports as a proportion of import-weighted total final expenditure. Import-weighted total final expenditure 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. Import and export data have been adjusted to exclude the estimated impact of MTIC fraud. Import intensities are estimated using the *United Kingdom Input-Output Analytical Tables 2005*.
- (c) Import prices, excluding the estimated impact of MTIC fraud, divided by the market price GDP deflator.

income growth is likely to continue to weigh on activity, along with fiscal consolidation and low levels of confidence (**Chart 2.3**). Overall, despite a loosening in monetary policy, US growth prospects appear to have deteriorated since the *August Report* (**Chart 2.4**).

Emerging economies

There has been a gradual slowing in output growth in many emerging economies in 2011. That could reflect policy measures taken to reduce inflationary pressures. But global developments may have lowered demand for emerging market exports, and may also have contributed to recent capital outflows from, and large asset price falls in, some of those economies.

World trade

The overall impact of slower global growth on the United Kingdom will depend, in part, on how world trade is affected. In 2008, world trade fell very sharply relative to GDP (**Chart 2.5**) as the shock to global demand was skewed towards highly traded manufactured goods, whose production processes often span several countries.⁽¹⁾ Countries that specialise in the production of these goods experienced large falls in exports, although much of the impact on their net trade will have been offset by lower associated imports. World trade growth stalled in 2011 Q2 and into Q3, but, so far, it has not fallen in the way that it did in 2008.

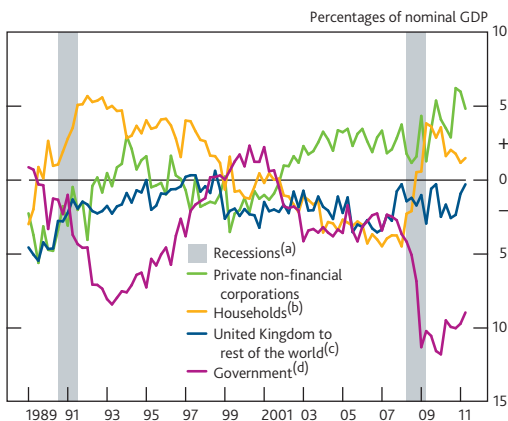
UK trade

Consistent with the weakening in global demand, UK export growth has slowed. Goods exports fell in both 2011 Q2 and Q3 (**Chart 2.6**), although part of the fall in Q2 is likely to reflect the temporary factors that depressed output (Section 3). Surveys of goods export orders, which may be less affected by temporary factors, point to a more gradual slowing in growth during 2011.

Imports fell in the first half of 2011. In part, that probably reflected the weakness in domestic demand (Section 2.2). But the fall in imports in Q1 was also partly erratic, associated with a change in the VAT treatment of aircraft imports.

The depreciation of sterling that began in mid-2007 has supported UK net trade. It appears to have boosted exports. And it also appears to have led to some switching of expenditure away from imports: relative to their previous trend, imports have grown more slowly than spending on domestically produced goods and services over the past four years (**Chart 2.7**). As described in the box on pages 20–21, estimates of the boost to growth from net trade since the sterling depreciation have been revised up, removing much of the previously puzzling weakness. The latest data also suggest that the nominal trade balance has improved, taking the

(1) The box on pages 22–23 of the *May 2009 Report* contains a more detailed discussion of the fall in world trade in 2008.

Chart 2.8 Financial balances by sector

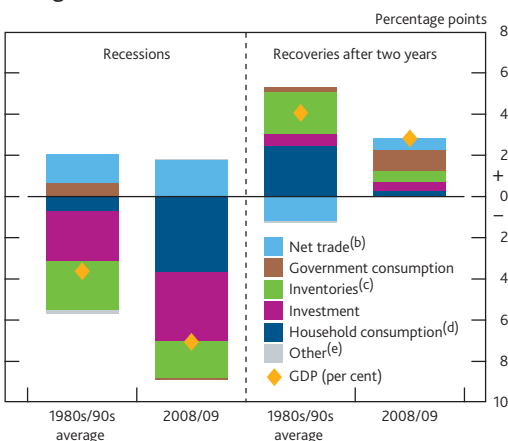
- (a) Recessions are defined as at least two consecutive quarters of falling output (at constant market prices) estimated using the latest data. The recessions are assumed to end once output began to rise.
- (b) Includes non-profit institutions serving households.
- (c) Net lending by the United Kingdom to the rest of the world is equivalent to the sum of the current and capital accounts of the balances of payments.
- (d) Excludes public corporations.

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

Percentage changes on a quarter earlier

	Averages			2011	
	1998–2007	2008–09	2010	Q1	Q2
Household consumption ^(b)	0.9	-0.7	0.1	-0.6	-0.6
Private sector investment	1.1	-3.8	1.3	-6.7	7.9
<i>of which, business investment</i>	1.2	-2.9	1.9	-10.0	11.6
<i>of which, private sector dwellings investment</i>	1.1	-5.1	0.0	0.8	0.5
Change in inventories ^{(c)(d)}	0.0	-0.2	0.3	-0.7	-0.1
Private sector domestic demand	0.9	-1.5	0.7	-2.5	0.5
Government consumption and investment	0.9	0.6	0.0	2.3	-1.6
Alignment adjustment ^(d)	0.0	0.0	0.0	0.2	0.3
Domestic demand	0.9	-1.0	0.5	-1.1	0.3
'Economic' exports ^(e)	1.1	-0.8	1.9	1.5	-1.3
'Economic' imports ^(e)	1.4	-1.6	2.4	-3.0	-0.3
Net trade^{(d)(e)}	-0.1	0.3	-0.2	1.4	-0.3
Real GDP at market prices	0.8	-0.8	0.3	0.4	0.1

- (a) Chained-volume measures.
- (b) Includes non-profit institutions serving households.
- (c) Excludes the alignment adjustment.
- (d) Percentage point contributions to quarterly growth of real GDP.
- (e) Excluding the estimated impact of MTIC fraud.

Chart 2.9 Contributions of expenditure components to changes in demand in recessions and recoveries^(a)

- (a) Chained-volume measures at market prices. Recessions are defined as in Chart 2.8, and the recoveries from recessions are assumed to begin in the quarter that follows the trough in output.
- (b) Excluding the estimated impact of MTIC fraud.
- (c) Excludes the alignment adjustment.
- (d) Includes non-profit institutions serving households.
- (e) 'Other' includes the alignment adjustment and a statistical discrepancy.

current account and net lending by the United Kingdom to the rest of the world close to zero (Chart 2.8).

2.2 Domestic demand

Real demand has recovered at only a moderate pace since the end of the recession (Table 2.A and Chart 2.9). Net trade has, on average, supported growth, but domestic demand has been weak. Moreover, within domestic demand, government consumption has accounted for almost half of growth, but that support is unlikely to continue, given the fiscal consolidation now under way.

The current UK recovery has been significantly weaker than the recoveries from the recessions of the 1980s and 1990s (Chart 2.9). That is consistent with international experience that recoveries after banking crises have tended to be slower than average. But it also reflects rises in VAT, energy and import prices eroding real household incomes. That has pushed down consumption, which has provided almost no support to the first two years of this recovery, whereas in the past two UK recoveries, on average, consumption accounted for more than half of output growth.

The recovery in nominal demand has been stronger. But increased spending on imports and taxes, which partly reflects rises in import prices and VAT, accounts for much of the pickup in nominal demand growth (Chart 2.10). Growth in nominal gross value added, a measure of corporate and household income, has been well below its average in the decade prior to the recession.

Household spending

During the recession, households cut back on spending and saved more: the saving ratio increased from an average of 2.7% in 2007 to a peak of 9.4% in 2009 Q2 (Chart C in the box on pages 20–21). Both the fall in consumption and the rise in the saving ratio during the recession are now reported to be larger than at the time of the August Report.

Households' decisions to save more in 2008 and 2009 are likely to have been related to a rise in uncertainty about the economic outlook and the prospects for their future incomes. Tighter credit conditions may also have raised net saving — not only directly because of restrictions on lending, but also because households may have had to save more for a deposit on a property, or because of worries that it will be harder to borrow to smooth through any future temporary weakness in income. These developments may also have increased saving by raising concerns among some households about their ability to service debts that were taken out before the financial crisis.

At 7.4% in 2011 Q2, the saving ratio has fallen back from its peak. It nevertheless remained well above its pre-recession

Household saving: evidence from the 2011 NMG Consulting survey

As discussed in Section 2, the outlook for household spending depends, in part, on the evolution of saving. This box uses the results of the latest annual survey carried out for the Bank by NMG Financial Services Consulting to shed some light on developments in household saving.⁽¹⁾

The average amount that households reported that they had saved each month over the past year was higher in the 2011 survey than in 2010. But the average figures mask a wide distribution of responses: for example, 43% of households reported that they had saved nothing each month over the past year. Over the next year there were more respondents planning to increase their monthly saving than planning to decrease it. But those cutting back on saving were planning on doing so by more, on average, than those increasing it, so, in aggregate, this survey suggests little change in monthly saving next year relative to this.

The factors influencing saving decisions

There are many influences on households' saving decisions. If households become more uncertain about future income, then saving is likely to rise temporarily as a buffer of extra savings is accumulated. Credit conditions and households' concerns about their debts will also play a role in saving decisions. But some households who might wish to save more may not be able to. Many households who expected to reduce the amount they saved each month reported that was because of lower incomes or the higher cost of essential items (Table 1).

Table 1 Reasons for expected decrease in monthly saving over the next year^(a)

Percentages of respondents	2011
Unable to save as much because of higher cost of essential items	37
Unable to save as much because of lower income	28
Have enough savings and other assets	14
The low level of interest rates	13
Have already bought the item was saving for	9

Sources: NMG Financial Services Consulting survey and Bank calculations.

(a) Those households that responded that they were planning to decrease their monthly saving were allowed to specify up to four answers from the options listed. Question: 'What would you say are the main factors driving this decrease (in saving)?'.

The NMG survey suggests that households' uncertainty about their income has increased. Around a third of respondents reported that they have become less certain about their future household income over the past year, while only about a tenth have become more certain. It is difficult to know how significant these results are, though, as this question has not been asked in previous surveys. Indeed, the proportion of

households increasing saving due to worries about redundancy fell back in 2011, suggesting — at face value — a decrease in uncertainty about employment since the previous survey (Table 2).

Table 2 Reasons for expected increase in monthly saving over the next year^(a)

Percentages of respondents	2010	2011
Saving for personal commitments	24	27
Saving for retirement	25	24
Trying to reduce debts	25	23
Saving for a big item	18	21
Extra cash from increased income/lower bills	9	14
Worried about future tax increases	9	14
Worried about future interest rate increases	12	13
Saving for a deposit on a house/flat	10	13
Worried about redundancy	17	12
Will have less guaranteed income	7	10
Extra cash from decreased mortgage payments	8	3
Making up for fall in the value of house/investments	4	3

Sources: NMG Financial Services Consulting survey and Bank calculations.

(a) Those households that responded that they were planning to increase their monthly saving were allowed to specify up to four answers from the options listed. Question: 'What would you say are the main factors driving this increase (in saving)?'.

The continuing fiscal consolidation may affect some households' saving decisions. The percentage of respondents citing worries about future tax rises as a reason for increasing their saving rose in 2011 relative to 2010 (Table 2). In addition, the NMG survey contained some questions specifically related to the Government's measures to cut the budget deficit. In response to those, 15% of households reported that they had saved more over the past year because of the measures that had already come into effect; and around a quarter expected to save more over the next few years, as other measures come into effect.

According to the NMG survey, households' credit conditions remain tighter than before the financial crisis. Tighter credit conditions could increase the amount people want to save, for example, if higher deposits for house purchase are required, or it is harder for households to obtain bank credit to finance spending. Some respondents who reported that their monthly saving was likely to increase identified saving for a deposit on property or to purchase a big item as important reasons (Table 2).

Respondents to the NMG survey report that attempting to reduce debt levels continues to be an important motive for saving: around a quarter of households increasing their monthly saving were doing it in part to pay off debt (Table 2). A related indicator is whether households feel burdened by their debt. The proportion of respondents reporting that unsecured debt was a burden remained elevated relative to its

pre-recession level in 2011, although it had fallen back a little since 2010. Separately, a similar proportion of households as in the previous survey reported that they were struggling with bills and credit commitments, but, within that, the share of households reporting that they were falling behind with payments increased quite sharply to around 7%. Much of that rise, however, may reflect, for example, higher household utility bills rather than an increased debt burden.

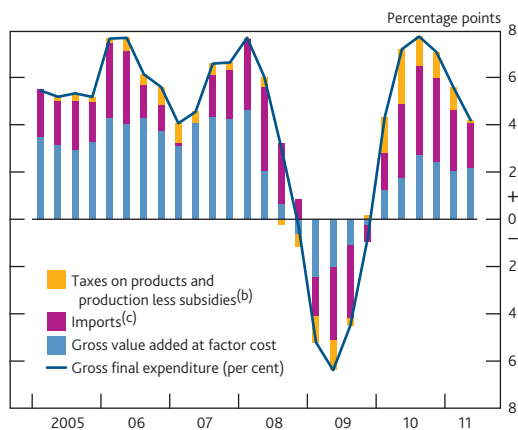
Some households may have completed any balance sheet adjustment that they wanted to make. Around a seventh of those decreasing saving were doing so in part as they had accumulated enough savings and other assets (Table 2).

Conclusion

Overall, the NMG survey indicates that the amount households save each month is likely to be broadly unchanged over the next year. Households appear to have become less certain about their future income, and worries about the impact of the fiscal consolidation and balance sheet concerns could also increase monthly saving. But some households who might wish to save more may not be in a position to do so and others may have accumulated sufficient savings.

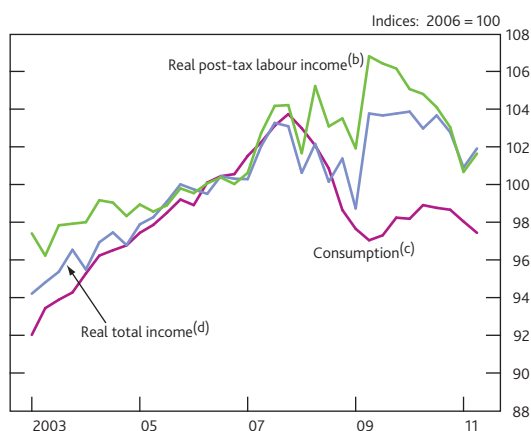
(1) The survey was conducted between 23 and 29 September 2011, the latest in a series of surveys carried out annually by NMG Financial Services Consulting on behalf of the Bank. The survey included around 2,000 British households, and was designed and weighted to be a representative sample. Further results will be reported in a forthcoming article in the *Bank of England Quarterly Bulletin*.

Chart 2.10 Counterparts to four-quarter growth in nominal gross final expenditure^(a)



- (a) At current market prices.
 (b) Includes a statistical discrepancy.
 (c) Excluding the estimated impact of MTIC fraud.

Chart 2.11 Household consumption and real income^(a)



- (a) Includes non-profit institutions serving households.
 (b) Wages and salaries plus mixed income less taxes (including income taxes and Council Tax) plus net transfers (general government benefits minus employees' National Insurance contributions), deflated by the consumer expenditure deflator.
 (c) Chained-volume measure.
 (d) Total available household resources divided by the consumer expenditure deflator.

level, though it was similar to that seen in the late 1990s. The fall in savings since 2009 may reflect: some reduction in precautionary saving as the economy gradually recovered and uncertainty receded; an easing in credit conditions; or the fact that falling real incomes may have led some households to save less. But partially offsetting that, some households may have started to save more in the light of the fiscal consolidation. The box on pages 24–25 presents some recent survey evidence on influences on household saving.

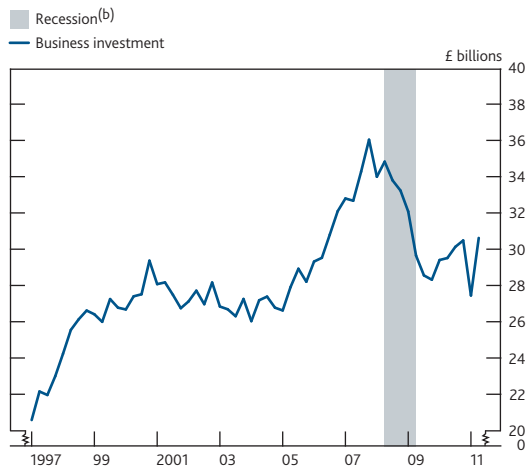
Despite broadly flat saving over the past year, household spending has decreased in each of the past four quarters, falling by 0.6% in 2011 Q2 (Chart 2.11). That reflects the sharp squeeze in real incomes over that period, following increases in VAT, energy prices and import prices (Section 4). Real income growth is likely to have remained weak in the second half of 2011 as utility prices rose. But the drag on income growth should start to dissipate in 2012, which should support consumption growth.

Uncertainty generated by developments in the world economy may put upward pressure on saving and weigh on consumption in the near term. But the highly stimulative stance of monetary policy (Section 1) should help to support spending.

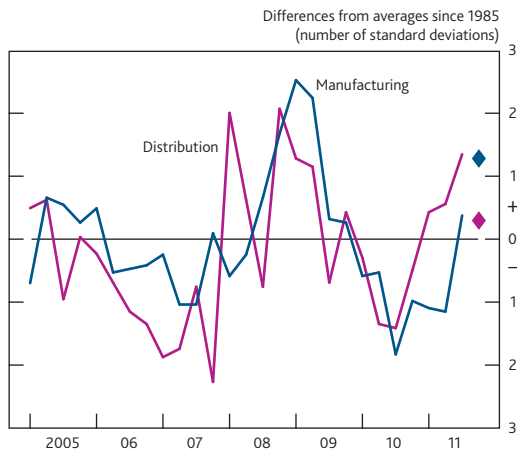
The latest monthly indicators suggest that consumption growth is likely to remain weak in Q3. Retail sales volumes fell by 0.2% in Q3, and the *CBI Distributive Trades Survey* is consistent with retail sales remaining weak in October. The outlook for household spending in the medium term is discussed in Section 5.

Business spending

Business investment fell sharply during the recession (Chart 2.12). That is likely to have partly reflected companies deferring investment as demand prospects deteriorated and uncertainty rose. Some businesses may also have been prevented from investing by tightening credit conditions.

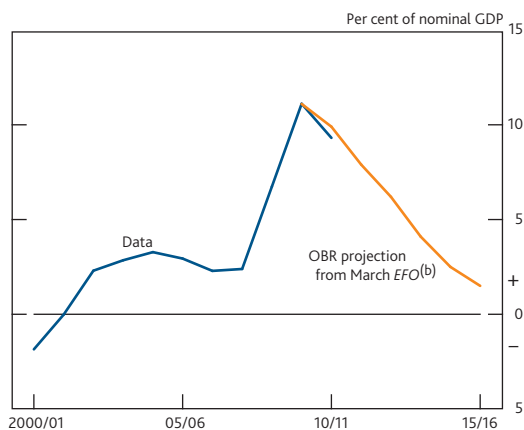
Chart 2.12 Business investment^(a)

(a) Chained-volume measure.
 (b) Recessions are defined as in Chart 2.8.

Chart 2.13 Surveys of stock adequacy^(a)

Source: CBI.

(a) Quarterly averages of monthly data. Net percentage balance of companies that say their present stocks of finished goods are more than adequate (manufacturing) or are high in relation to expected sales (distribution). The diamonds show data for October.

Chart 2.14 Public sector net borrowing^(a)

Sources: HM Treasury, Office for Budget Responsibility (OBR) and ONS.

(a) Measures exclude the temporary effects of financial interventions.
 (b) Projections come from the OBR's March 2011 *Economic and Fiscal Outlook* (EFO).

Business investment remains well below its pre-recession level (**Chart 2.12**). Investment recovered somewhat during 2010, but growth has slowed more recently. Investment in 2010 Q4 was boosted as companies brought forward purchases of aircraft and related components ahead of changes to their VAT treatment in January 2011. The unwinding of that temporary effect explains some of the sharp fall in investment in 2011 Q1. Smoothing through the volatility around the turn of the year, investment grew by 1.6% over the three quarters to 2011 Q2, significantly below growth of 6.4% recorded in the first three quarters of 2010.

The recent weakening in growth prospects, renewed uncertainty and concerns that credit conditions may tighten appear to have only had a modest effect on investment so far. Although survey balances from the BCC and CBI have fallen back in Q3, they do not imply cuts in investment on the scale seen in the recession. And reports from the Bank's Agents suggest that investment intentions, although softening since the summer, still point to modest increases in capital spending over the coming year. The prospects for investment in the medium term are discussed in Section 5.

Companies' spending on stocks boosted output in the first year of the recovery. During that period, companies initially eased the pace of de-stocking and then began to rebuild stock levels. Stockbuilding reduced growth in 2011 H1, but that could partly reflect disruption to global supply chains following the Japanese earthquake and tsunami. Surveys suggest that companies have now rebuilt stocks to adequate levels (**Chart 2.13**). Voluntary stockbuilding is therefore unlikely to contribute much to growth in the near term. But if demand turns out to be significantly weaker than expected there may be an initial involuntary increase in stocks, as happened in 2008, before companies run down their holdings in line with weaker demand.

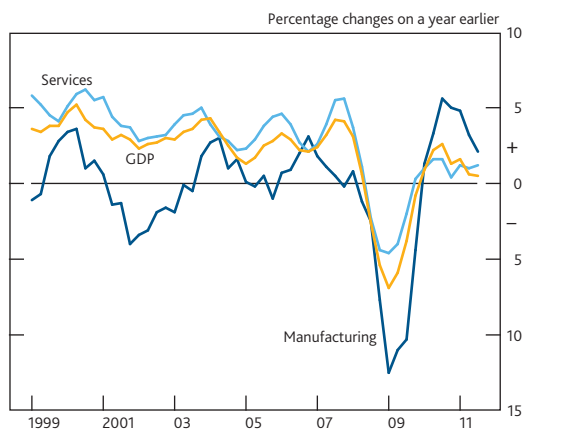
Government spending

A substantial fiscal consolidation is taking place. The MPC's forecast is conditioned on the fiscal plans set out in the March *Budget*, supplemented by the composition of government spending underlying the Office for Budget Responsibility's (OBR's) associated *Economic and Fiscal Outlook*. The fiscal deficit narrowed in 2010/11, and by slightly more than the OBR had projected (**Chart 2.14**). The OBR will publish its autumn forecast on 29 November.

3 Output and supply

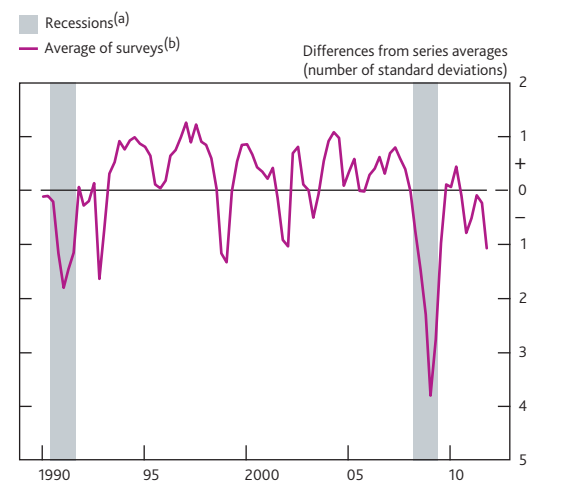
Output was estimated to have risen by 0.5% in Q3, but underlying growth was probably weaker. Business surveys suggest that output is likely to be broadly flat in Q4. Employment fell sharply in the public sector in Q2, and private sector employment growth appears to have weakened. Unemployment remained elevated. Business surveys suggest that the margin of spare capacity within companies widened a little in Q3.

Chart 3.1 GDP and sectoral output^(a)



(a) Chained-volume measures. GDP is at market prices. Sectoral output data are at basic prices.

Chart 3.2 Survey indicators of business confidence



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

- (a) Recessions are defined as at least 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) Average of aggregate measures of business confidence from the BCC, CBI and CIPS/Markit surveys. The CBI measure starts in 1998 Q4 and CIPS/Markit measure in 1997 Q2. Aggregate measures have been produced by weighting together sectoral surveys using nominal shares in value added. The surveys used are: BCC turnover confidence (non-services and services), CBI business optimism (manufacturing, financial services, business/consumer services and distributive trades) and CIPS/Markit orders (manufacturing) and business expectations (services and construction). The BCC data are non seasonally adjusted. Balances have been moved forward one quarter.

Output is provisionally estimated to have risen by 0.5% in 2011 Q3. That partly reflected a rebound from Q2, however, when output was depressed by the impact of several temporary factors. Over the past year, output growth has been subdued (Section 3.1), while business surveys point to broadly flat output in Q4.

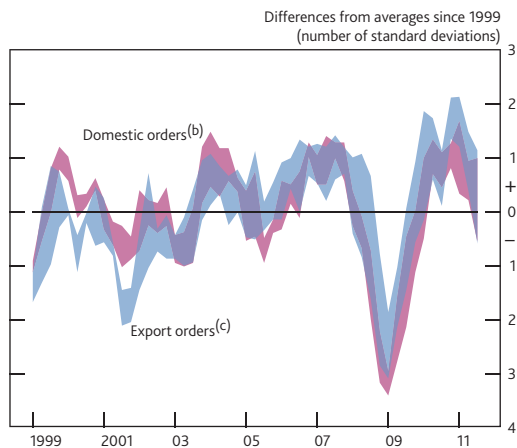
The labour market appears to have weakened in recent months. In Q2 public sector employment fell and private sector employment growth slowed slightly (Section 3.2). Aggregate employment has declined since then and employment intentions indicators have softened. The level of labour productivity remained far below the continuation of its pre-crisis trend in Q2. It is likely that weakness in measured productivity has been accompanied by weak growth in businesses' supply capacity over recent years. Business survey measures of spare capacity increased a little in Q3, but the precise extent of spare capacity within companies remains uncertain (Section 3.3).

3.1 Output

Output was provisionally estimated by the ONS to have risen by 0.5% in 2011 Q3. Within that, services output expanded by 0.7% and manufacturing output rose by 0.2%. But quarterly growth in Q3 is likely to have been boosted by a rebound in activity after output in Q2 was depressed by the extra bank holiday for the royal wedding and supply chain disruptions following the earthquake and tsunami in Japan.⁽¹⁾ Abstracting from quarterly volatility, four-quarter GDP and services growth remained well below pre-recession averages in Q3, and manufacturing growth appears to have slowed sharply in recent quarters (**Chart 3.1**). The level of output in Q3 was estimated by the ONS to be 4% below its pre-recession peak. The MPC, however, continues to place weight on a range of indicators, in addition to the ONS estimate of GDP, when forming a view on output over the past. A box on page 32 sets

(1) See the box on pages 24–25 of the May 2011 *Report* for a discussion of the impact of special factors on GDP growth.

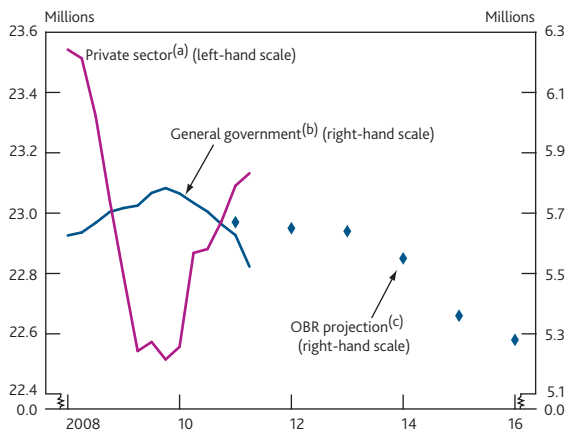
Chart 3.3 Survey indicators of growth in manufacturing sector orders^(a)



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

- (a) The Bank's Agents report the volume of sales over the past three months compared to the same period a year earlier. The BCC (CBI) survey reports the percentage balance of respondents reporting (the trend in) orders to be 'up' relative to 'down' over the past three months. The CIPS survey asks respondents to compare the level of new orders received this month to the situation one month ago. The BCC data are non seasonally adjusted.
 (b) Measures of domestic orders/sales from the BCC, CBI and the Bank's Agents.
 (c) Measures of export orders/sales from the BCC, CBI, CIPS/Markit and the Bank's Agents.

Chart 3.4 Public and private sector employment



Sources: Office for Budget Responsibility (OBR) and ONS (including the Labour Force Survey).

- (a) Private sector employment is calculated as the difference between LFS whole-economy employment and total public sector employment from the ONS' public sector employment release.
 (b) General government employment (excluding public corporations) data are from the ONS' public sector employment release.
 (c) The OBR's projection is from the March 2011 *Economic and Fiscal Outlook* and is for the end quarter of each financial year.

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

	Averages since 2000	2010		2011		
		H1	H2	Q1	Q2	Q3
BCC ^(b)	14	9	3	10	12	7
CBI ^(b)	1	-7	-1	6	8	-2
Agents ^(c)	0.3	0.3	0.7	0.7	0.6	0.4
Manpower ^(b)	9	1	2	2	3	2

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

- (a) Measures for the Bank's Agents (manufacturing and services), the BCC (non-services and services) and the CBI (manufacturing, financial services and business/consumer services) are weighted together using employee jobs shares from Workforce Jobs. The BCC data are non seasonally adjusted. The Manpower data cover the whole economy.
 (b) Net percentage balance of companies expecting their workforce to increase over the next three months.
 (c) End-quarter observation. The scores refer to companies' employment intentions over the next six months. The scores are on a scale of -5 to 5.

out the MPC's current assessment, which is that the level of output in Q3 is somewhat more likely to be revised up than down.

Forward-looking surveys of business confidence fell in Q3 and are consistent with output being broadly flat in Q4 (**Chart 3.2**). It is difficult to judge how good a guide to business activity these measures are. They fell sharply around the 2008 recession, but they have also weakened at times when, according to the official data, activity has not slowed materially. Consistent with those surveys, however, the CIPS output indices for October — which provide a more direct, albeit still preliminary, read on activity in Q4 — also suggest broadly flat output.

In part, the slowdown in activity is likely to reflect global developments (Section 2). For example, business surveys suggest a sharp slowing in growth of manufacturing export orders (**Chart 3.3**). Growth in domestic orders has also fallen over 2011, although from more modest rates. As well as the indirect effects of weaker export demand, that may reflect the impact of recent financial market stresses (Section 1), and associated heightened uncertainty (Section 2), on domestic demand. Those factors may also have contributed, in part, to the continued weakness in indicators of service sector output. Overall, the MPC judges that output growth is likely to remain weak in the near term (Section 5).

3.2 Labour demand and supply

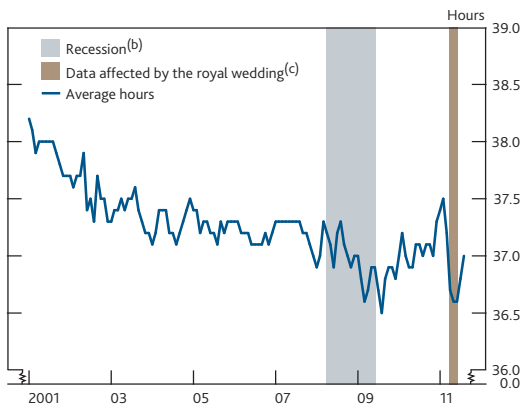
Labour demand

Measures of whole-economy employment have weakened materially in recent months. According to Workforce Jobs, employment fell in Q2. And, after growing only modestly in Q2, the more timely Labour Force Survey (LFS) measure of employment fell by 178,000 between the three months to May and the three months to August.

Slow growth in LFS employment in Q2 reflected a sharp decline in public sector employment and a slight slowing in private sector employment growth. The level of general government employment in Q2 was around 140,000 below the profile implied by the Office for Budget Responsibility's March projection (**Chart 3.4**). That could be because the reductions in public sector employment have come earlier than anticipated in that projection with fewer public sector job cuts to come over the rest of the fiscal consolidation. Alternatively, the total reduction in public sector employment may turn out to be greater than initially projected.

Data are not yet available for the split between public and private employment in Q3. It is possible that some of the fall in LFS employment in the three months to August reflects continued public sector job cuts. But weaker private sector employment growth — following a marked rise since early 2010 (**Chart 3.4**) — could also have played a role. Surveys

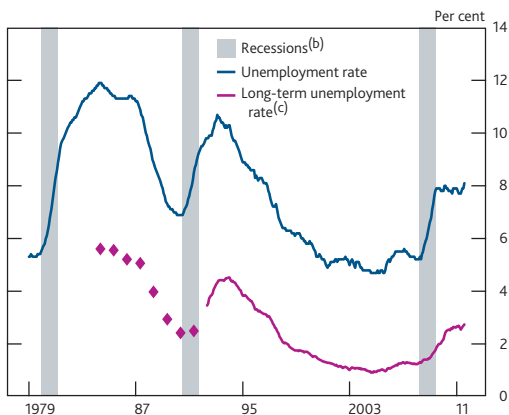
Chart 3.5 Average actual weekly hours in full-time employment^(a)



Source: ONS (including the Labour Force Survey).

- (a) Average weekly hours worked in main job. Rolling three-month measure.
 (b) The recession is defined as in [Chart 3.2](#).
 (c) A reduction in average weekly hours associated with the royal wedding bank holiday will have affected data between the three months to April and the three months to June 2011.

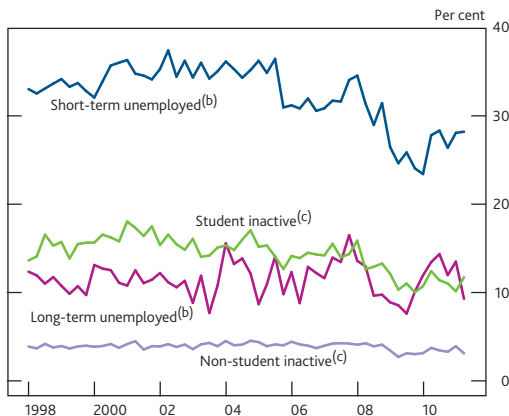
Chart 3.6 Unemployment rates^(a)



Source: ONS (including the Labour Force Survey).

- (a) Rolling three-month measures unless otherwise stated.
 (b) Recessions are defined as in [Chart 3.2](#).
 (c) Defined as those people who have been unemployed for more than twelve months divided by the economically active population. Data prior to 1992 are based on non seasonally adjusted, annual LFS microdata. These annual observations correspond to the March-May quarter.

Chart 3.7 Flows from non-employment to employment^(a)



Sources: Labour Force Survey and Bank calculations.

- (a) Based on LFS microdata that have been seasonally adjusted by Bank staff. Data are to 2011 Q2 and based on the 16–64 population.
 (b) Flows into LFS employment by those who had been unemployed for fewer (more) than twelve months divided by the number of people who were unemployed for fewer (more) than twelve months in the previous quarter.
 (c) Flows into LFS employment by those who had been inactive by reason divided by the number of people who were inactive by reason in the previous quarter.

of businesses' employment intentions, which largely reflect private sector intentions, are consistent with weakening near-term employment growth ([Table 3.A](#)). That could reflect the slowing in output growth that has already occurred ([Section 3.1](#)), but businesses may also be reducing employment pre-emptively in the light of weaker expected growth ([Chart 3.2](#)) or delaying hiring decisions due to heightened uncertainty.

If demand does weaken further, those businesses that have scope to could reduce employees' hours worked rather than the number of people employed. But average hours for full-time employees remain below pre-recession levels, despite having recovered somewhat from the temporary impact of the additional bank holiday in April ([Chart 3.5](#)). And, as discussed in previous *Reports*, there was a marked shift towards part-time employment during the recession and, despite falling more recently, the part-time share of employment remains close to historical highs.

Labour supply and labour market tightness

The unemployment rate is one indicator of labour market slack, and so of possible downward pressure on wages. Despite robust private sector employment growth over 2010, the unemployment rate remained broadly flat ([Chart 3.6](#)). That reflected not only declining public sector employment but also the expansion of the labour force — in the past decade employment growth of around 60,000 a quarter has been required merely to keep the unemployment rate constant. The most recent falls in employment have been associated with rising unemployment; the LFS unemployment rate rose slightly to 8.1% in the three months to August ([Chart 3.6](#)).

It is possible that some of the unemployed may exert little downward pressure on wages. For example, the skills of those who have been out of work for a long time may atrophy. And young people with little previous work experience may have had little opportunity to acquire relevant skills. Since the recession started, the youth unemployment rate has risen sharply. The proportion of the workforce that is long-term unemployed has also increased ([Chart 3.6](#)), while the rate at which they found work fell in Q2 ([Chart 3.7](#)).

But some of the economically inactive — people who do not have a job and are not actively looking for work — may exert some downward pressure on wages if they are able to move easily into employment. As discussed in previous *Reports*, the inactivity rate increased during the recession, although by much less than in the 1990s recession. That rise was primarily accounted for by greater student numbers, whose probability of finding a job is higher than the rest of the inactive population, on average ([Chart 3.7](#)). But the number of students classified as inactive has fallen back since then and inactivity among older people — who are less likely to move back into employment from inactivity — has increased in recent months.

Table 3.B Selected indicators of labour market slack

	Averages since 1998 ^(a)	2010	2011		
			Q1	Q2	Q3
LFS unemployment rate ^(b)	5.9	7.9	7.7	7.9	8.1
Claimant count unemployment rate	3.5	4.7	4.5	4.7	4.9
Weighted non-employment ^{(b)(c)}	7.5	9.0	8.5	8.6	8.7
Vacancies/unemployed ratio ^{(b)(d)}	0.34	0.19	0.20	0.18	0.18
Recruitment difficulties					
Agents' scores ^(e)	0.7	-1.8	-0.7	-0.5	-0.6
BCC ^(f)	59	49	47	49	49
CBI skilled staff ^(g)	23	12	17	16	16
CBI unskilled staff ^(g)	6	2	3	2	2

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

(a) Unless otherwise stated.

(b) The figure for 2011 Q3 shows data for the three months to August.

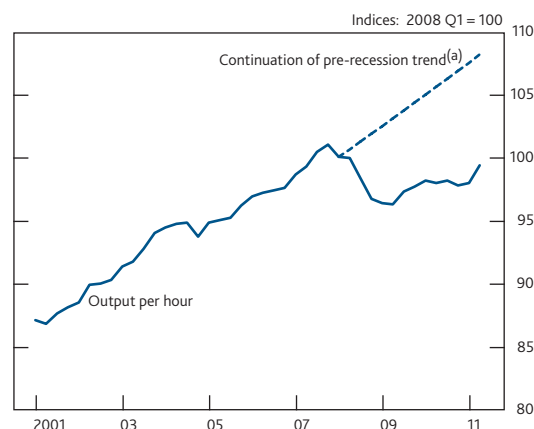
(c) Percentage of the 16–64 population. This measure weights together different types of non-employed by backward-looking four-quarter moving averages of quarterly transition rates of each group into employment derived from the LFS.

(d) Number of vacancies (excluding agriculture, forestry and fishing) divided by LFS unemployment. Average is since June 2001.

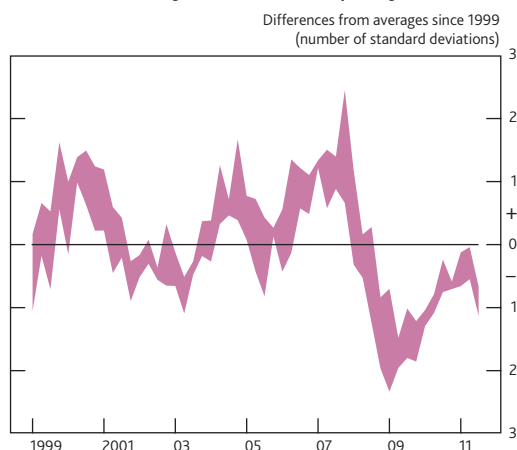
(e) End-quarter observations on a scale of -5 to +5, with positive scores indicating greater recruitment difficulties in the most recent three months compared with the situation a year earlier.

(f) Percentage of respondents reporting recruitment difficulties over the past three months. Non seasonally adjusted. Services and non-services balances are weighted by shares in employment.

(g) Balances of respondents expecting skilled/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 and consumer services sectors), weighted by shares in employment. Averages are since 1998 Q4.

Chart 3.8 Labour productivity

(a) Pre-recession trend is calculated by projecting forward labour productivity from 2008 Q2 using the average quarterly growth rate between 1997 Q2 and 2008 Q1.

Chart 3.9 Survey measures of capacity utilisation^(a)

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

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

Overall, labour market slack appears to remain high compared to recent historical averages, and some indicators have increased over 2011 (**Table 3.B**). For example, the LFS and claimant count unemployment rates have risen in recent quarters, while weighted non-employment — a measure of labour market slack that weights different groups of unemployed and inactive people by their likelihood of finding work — also rose in the three months to August. Moreover, surveys suggest that recruitment difficulties and skills shortages are not currently a pressing concern for most businesses and vacancies remain low relative to unemployment (**Table 3.B**).

3.3 Productivity and companies' spare capacity

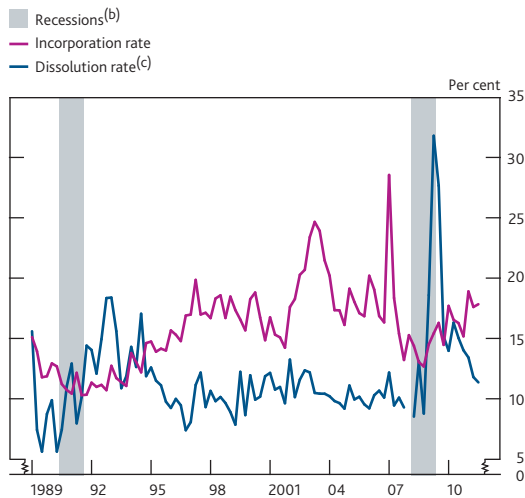
During the recession, measured productivity fell sharply. And during the recovery it has grown at below its pre-crisis average rate. Indeed, following revisions to output in the 2011 *Blue Book* (see the box on pages 20–21), measured productivity (**Chart 3.8**) lies even further below a continuation of its pre-crisis trend than was previously estimated. At face value, that suggests that a significant degree of spare capacity existed within companies in 2011 Q2.

In contrast, business surveys suggested that by Q2 capacity pressures were only a little below average (**Chart 3.9**), although more spare capacity opened up again in Q3 as companies saw demand weakening. Overall, those surveys imply that the economy has undergone a period of sluggish underlying productivity growth. There is, however, considerable uncertainty about this and, therefore, for the outlook for productivity (Section 5).

As noted in previous *Reports*, business surveys might not be reliable indicators of total spare capacity within companies and therefore of developments in underlying productivity. Companies may report immediately available capacity rather than their long-run capacity, and exclude, for example, temporarily mothballed production lines. And some businesses may report having little spare capacity because they need to put in considerable effort to generate output when activity is subdued — for example if more staff time needs to be devoted to generating sales.

There are reasons why measured productivity may have been weak for a sustained period, without that signifying a persistent impairment of underlying productivity. Some businesses may have held on to employees despite lower activity due to worries that it would be difficult to recruit suitably skilled staff when demand recovers. That may have been facilitated by forbearance shown by banks and HMRC, as well as the low level of Bank Rate. Measured productivity growth could, therefore, rise quite sharply if output growth picks up, although it might also pick up if employers decide to lay off surplus staff.

Chart 3.10 Company incorporation and dissolution rates^(a)



Sources: Companies House, ONS and Bank calculations.

(a) Annualised quarterly flows divided by the average number of active companies in the final month of the quarter. The number of active companies in 2011 Q3 has been set equal to the 2011 Q2 level. Data relate to Great Britain, unless otherwise stated and are non seasonally adjusted.

(b) Recessions are defined as in Chart 3.2.

(c) Dissolutions data are for Great Britain prior to 2010 Q1 and for the United Kingdom after 2010 Q1. Data are not available for 2008 Q1. The spike in 2009 is associated with an exercise to tidy the Companies House register.

There is, however, some corroborative evidence that underlying productivity growth has been weak. In particular, the strong private sector employment growth over 2010 and the first half of 2011 does not appear consistent with companies, in aggregate, having surplus staff. The remainder of this section reviews factors that may have reduced growth in underlying productivity and companies' supply capacity more generally since 2008.

The banking crisis is likely to have impaired underlying productivity growth. For example, there is some evidence that new companies tend to be more productive than existing ones⁽¹⁾ and tight credit conditions will have reduced the number of new companies being formed during the recession (Chart 3.10). That said, company incorporations have picked up more recently. More generally, the crisis may have impaired the ability of the financial sector to allocate capital efficiently. Continued tight credit conditions and financial market stresses (Section 1) may still be restricting some businesses' ability to secure finance to invest and expand, requiring them to economise on the use of working capital.

Low business investment in recent years (Section 2), reflecting in part tight credit conditions and the weak demand environment, has depressed growth in the capital stock. Moreover, during the recession higher rates of company failures, and any associated capital scrapping, will also have impeded capital stock growth. Total company dissolutions are captured in removals from the Companies House register (Chart 3.10). Removals picked up sharply in 2009, but that was associated, in part, with an exercise to tidy the register. Looking through that exercise, it is likely that the underlying dissolution rate reached similar levels to the early 1990s, although it has fallen back recently.

The recession is also likely to have reduced people's opportunities to acquire skills, reducing growth in underlying productivity. In particular, higher unemployment and lower average hours worked (Chart 3.5) reduce the extent to which employees can acquire skills through working.

Overall, the MPC judges that underlying productivity growth is likely to have been weak since the start of the recession, although there is inherent uncertainty in any evaluation of past underlying productivity growth. It is, however, likely that, alongside substantial spare capacity within the labour market, there is some spare capacity remaining within companies. Continued weakness in demand is likely to lead to a further rise in spare capacity in the near term (Section 5).

(1) Disney, R, Haskel, J and Heden, Y (2003), 'Restructuring and productivity growth in UK manufacturing', *Economic Journal*, Vol. 113, Issue 489, pages 666–94.

Changes to the MPC's backcast

This box sets out the MPC's updated assessment of mature ONS GDP estimates following the revisions in the 2011 *Blue Book* (see the box on pages 20–21).

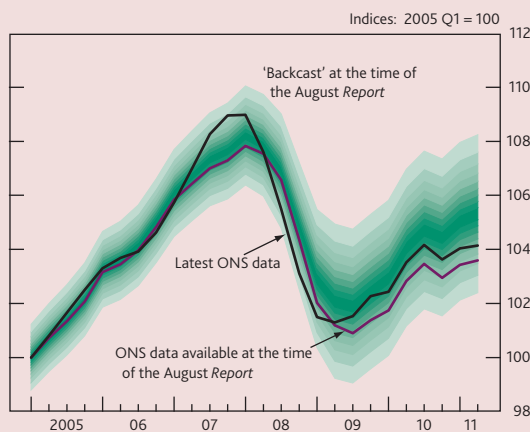
At the time of the *August Report* the MPC anticipated that the level of GDP would probably be revised up, with an unusually large upward revision to the level of GDP over 2008 and 2009 reducing the extent of the fall in output in the recession (**Chart A**).⁽¹⁾ But there was considerable uncertainty around that judgement reflecting, in part, that there were no recessions in the sample used to calibrate the backcast. In the 2011 *Blue Book*, the level of GDP was revised up by somewhat less than the MPC's central expectation. The profile of those revisions (described in the box on pages 20–21) also differed somewhat from the MPC's central expectation (**Chart A**).

The MPC's backcast reflects its best estimate of mature ONS GDP data. Following the inclusion of new information in the 2011 *Blue Book*, the data for 2007–09 are now significantly less likely to be revised in future releases. So the MPC has

incorporated much of the revisions prior to 2010 into its new backcast. The ONS may continue to introduce methodological improvements, and estimates of GDP growth since 2009 could also be subject to revision as additional information becomes available. The MPC therefore continues to place weight on a range of other indicators, including past patterns of data revisions and business surveys, when assessing recent output growth. The MPC judges that the current level of GDP is somewhat more likely to be revised up than down (**Chart B**). And most of that is likely to reflect slightly stronger growth since 2010 than is captured in the current vintage of ONS data. There is, however, uncertainty around that judgement.

The MPC's central expectation is therefore that the level of GDP over the recent past will be revised up, but by a lesser extent than was thought likely three months ago. But those revisions to the MPC's backcast have little implication for the Committee's view of current inflationary pressures (Section 5): estimates of spare capacity based on surveys (Section 3) are unchanged over the past, and the bulk of revisions to the backcast occurred prior to 2010 — recent growth rates, which are more relevant for current inflationary pressures, are little changed.

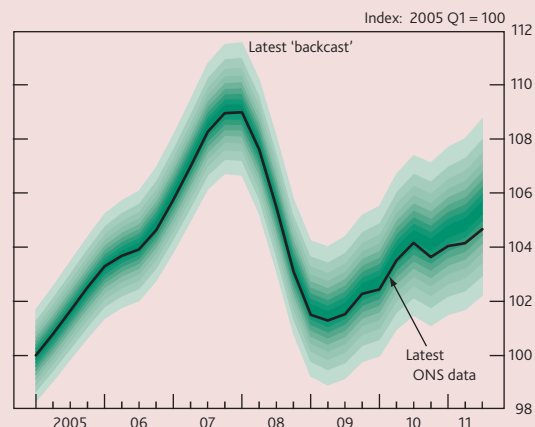
Chart A MPC's evaluation of GDP at market prices at the time of the *August Report*,^(a) ONS data at that time and latest ONS data



Sources: ONS and Bank calculations.

(a) Chained-volume measures. The fan chart depicts an estimated probability distribution for GDP over the past. It can be interpreted in the same way as the fan charts in Section 5. Data are to 2011 Q2.

Chart B MPC's current evaluation of GDP at market prices^(a) and latest ONS data



Sources: ONS and Bank calculations.

(a) Chained-volume measures. The fan chart depicts an estimated probability distribution for GDP over the past. It can be interpreted in the same way as the fan charts in Section 5 and forms the first part of the fan shown in **Chart 5.5** on page 42.

(1) For further information see the box on pages 22–23 of the August 2011 *Inflation Report*.

4 Costs and prices

CPI inflation rose to 5.2% in September 2011. The elevated rate of inflation reflected increases in VAT, energy and import prices. The impact of those factors will dissipate during 2012, so inflation should fall back. Domestically generated inflation appears subdued and is likely to remain weak given the margin of slack in the economy and the outlook for demand. Companies' profit margins appear to have recovered somewhat over the past year, but remain below their pre-recession levels. Nominal wage growth continued to be weak, although it has picked up a little this year. Indicators of inflation expectations remained mixed.

CPI inflation rose further above the 2% target in 2011 Q3. The increase in inflation between 2011 Q2 and Q3 was in large part accounted for by higher contributions from gas, electricity and petrol prices. Energy price rises have contributed significantly to the recent elevated rate of inflation, alongside sizable contributions from VAT and import prices (Section 4.1). As these effects begin to drop out of the twelve-month comparison in early 2012, inflation is likely to fall back sharply.

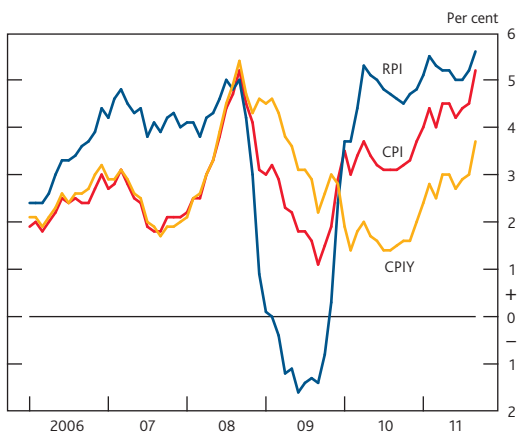
In contrast to headline inflation, domestically generated inflation appears to have been subdued over the recent past (Section 4.2). The outlook for inflation depends on developments in labour costs and companies' pricing behaviour, which, in turn, depend on the evolution of demand (Section 2), the amount of spare capacity in the economy (Section 3), and developments in inflation expectations.

4.1 Consumer prices

CPI inflation rose to 5.2% in September (Chart 4.1) and averaged 4.7% in 2011 Q3.⁽¹⁾ As discussed in recent *Reports*, the elevated rate of inflation reflects the temporary impact of increases in VAT, energy prices and import prices.

As the factors boosting inflation drop out of the twelve-month comparison, inflation should fall back sharply. In particular, the impact of the rise in VAT is likely to drop out by the end of 2012 Q1. And, unless oil prices increase significantly again, the direct contribution of petrol prices to CPI inflation should also fall markedly by early 2012. Together, the direct contribution of VAT and petrol prices to CPI inflation is likely to decrease by around 1½ to 2 percentage points between late 2011 and the

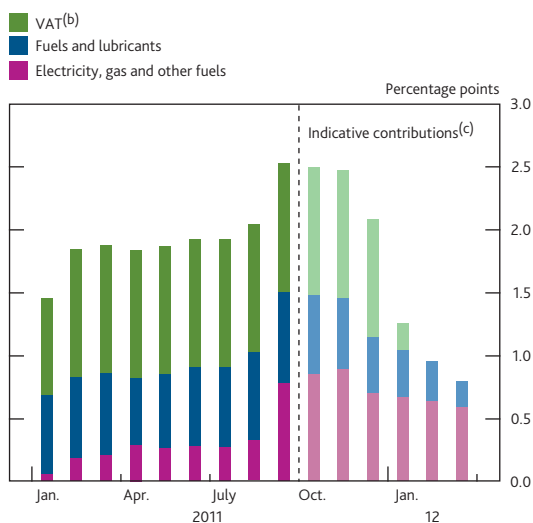
Chart 4.1 Measures of annual inflation^(a)



(a) Data are non seasonally adjusted.

(1) With July's CPI outturn of 4.4% lying more than 1 percentage point away from the target, the Governor, on behalf of the Committee, wrote an open letter to the Chancellor. The letter is available at www.bankofengland.co.uk/monetarypolicy/pdf/cpiletter110816.pdf.

Chart 4.2 Direct contribution of energy prices to CPI inflation and Bank staff's central estimate of VAT contribution^(a)



Sources: Bloomberg, Department of Energy and Climate Change, ONS and Bank calculations.

- (a) Contributions to annual CPI inflation. Data are non seasonally adjusted.
 (b) The estimate is based on Bank staff's assessment that three quarters of the increase in VAT in January 2011 was passed into consumer prices by the end of 2011 Q1. The VAT contribution is adjusted to allow for the fact that changes in VAT are already incorporated in the fuels and lubricants contribution.
 (c) Bank staff estimates. Electricity, gas and other fuels estimates are based on price increases announced by utility companies. Fuels and lubricants estimates use Department of Energy and Climate Change petrol price data for October and are then based on the November 2011 sterling oil futures curve shown in Chart 4.4.

end of 2012 Q1 (Chart 4.2). The rest of this subsection discusses the impact of VAT and energy prices in more detail and also considers developments in non-energy import and commodity prices.

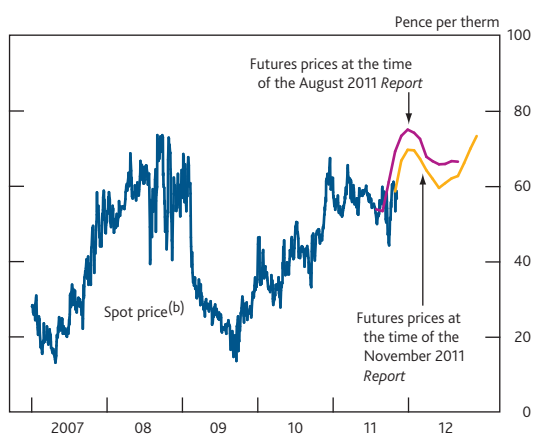
VAT

The rise in VAT is likely to have added about 1 percentage point to CPI inflation in 2011, but is unlikely to contribute significantly to inflation in 2012. That estimate is based on Bank staff's assessment that around three quarters of the increase in the standard rate of VAT to 20% in January 2011 was passed into consumer prices by the end of 2011 Q1. But there is uncertainty around the extent of pass-through: alternative assumptions of 50% or 100% pass-through imply contributions of 0.7 and 1.4 percentage points respectively.

Energy prices

Large rises in energy prices have contributed significantly to inflation over the recent past, and an increase in the direct contribution of energy accounted for the vast majority of the rise in inflation between 2011 Q2 and Q3. In particular, all six major domestic energy suppliers have announced substantial increases in their gas and electricity prices in recent months, averaging 18% and 11% respectively. Reflecting those increases, the contribution of electricity and gas prices to CPI inflation rose sharply between July and September (Chart 4.2). And it is likely to increase further in October and November as the announced price rises continue to take effect. These rises will stay in the twelve-month inflation rate for much of 2012.

Chart 4.3 Sterling wholesale gas prices^(a)



Sources: Bloomberg, Thomson Reuters Datastream and Bank calculations.

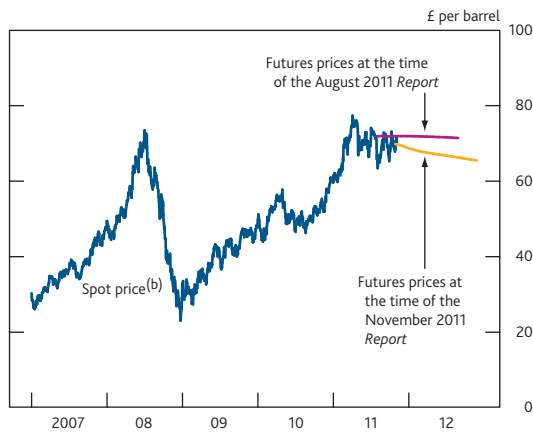
- (a) The futures prices shown are averages during the fifteen working days to 9 November 2011 and 3 August 2011.
 (b) One-day forward price of UK natural gas.

Developments in wholesale gas markets are an important determinant of retail gas and electricity prices, as higher wholesale gas spot and futures prices raise utilities suppliers' costs. UK wholesale gas futures prices are somewhat lower than at the time of the August Report but, smoothing through the seasonal pattern, the futures curve remains marginally upward sloping (Chart 4.3).

Petrol prices have also made a substantial contribution to inflation during 2011 because, following marked rises at the start of the year, oil prices have been significantly higher than in 2010. In the fifteen working days to 9 November, sterling oil prices remained around 35% higher than a year earlier.

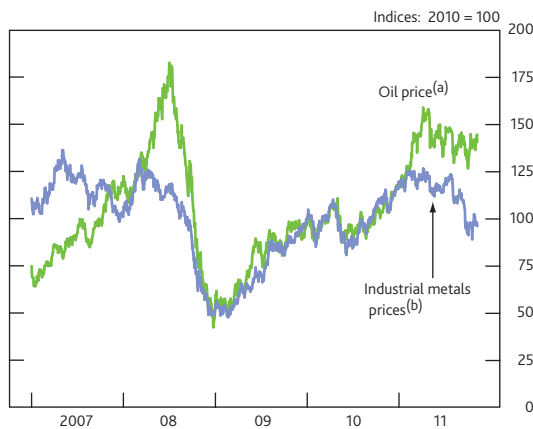
The contribution of petrol prices to inflation is likely to decrease during late 2011 and early 2012, as those earlier rises drop out of the twelve-month comparison (Chart 4.2). Oil prices have been broadly flat over most of 2011 (Chart 4.4) and, if they were to evolve in line with the futures curve, annual oil price inflation would fall back, reaching around zero by March 2012, in turn reducing petrol price inflation.

But there remains uncertainty about the outlook for oil prices. Oil prices tend to be cyclical: as world growth weakens,

Chart 4.4 Sterling oil prices^(a)

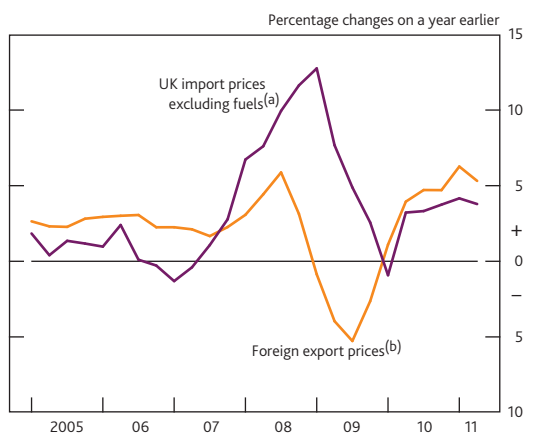
Sources: Bloomberg, Thomson Reuters Datastream and Bank calculations.

- (a) The futures prices shown are averages during the fifteen working days to 9 November 2011 and 3 August 2011. Each futures curve assumes that the sterling-dollar exchange rate remains constant at its average during those periods.
 (b) Brent forward prices for delivery in 10–21 days' time converted into sterling.

Chart 4.5 Dollar oil and industrial metals prices

Sources: Bloomberg, Standard & Poor's, Thomson Reuters Datastream and Bank calculations.

- (a) Brent forward prices for delivery in 10–21 days' time in dollars.
 (b) S&P (dollar) commodity price index.

Chart 4.6 UK import prices and foreign export prices

Sources: ONS, Thomson Reuters Datastream and Bank calculations.

- (a) Goods and services deflator, excluding the impact of MTIC fraud.
 (b) Domestic currency export prices of goods and services of 45 countries weighted according to their shares in UK imports. The sample does not include major oil exporters.

expectations of oil consumption growth also decline. Oil prices have fallen somewhat since August, but they have not decreased substantially as global growth prospects have weakened. That is in contrast to metals prices, for example, which have fallen back to around their average 2010 level in recent months (**Chart 4.5**). The resilience of oil prices could reflect lower-than-expected oil extraction growth or concerns about future oil production growth relating to developments in the Middle East and North Africa, for example. It could also reflect a stronger outlook for growth in countries that have contributed significantly to recent growth in oil consumption. For example, forecasts for output growth in emerging Asia, where demand tends to be relatively oil-intensive,⁽¹⁾ appear to have weakened less than elsewhere (see **Chart 2.4** on page 19).

Higher energy prices also have indirect effects on inflation via their effects on the costs of companies producing a wide range of goods and services. Those indirect effects are likely to take time to feed through to retail prices so, given past rises in energy prices, they may continue to raise inflation for some time yet.

Non-energy import and commodity prices

In addition to the effects of higher energy prices and VAT, CPI inflation has been boosted by import prices. UK import prices excluding fuels have risen by around 25% since early 2007. That has reflected two influences: between mid-2007 and 2009, high import price inflation was primarily driven by the depreciation of sterling; more recently, the pickup has reflected increases in foreign export prices (**Chart 4.6**).

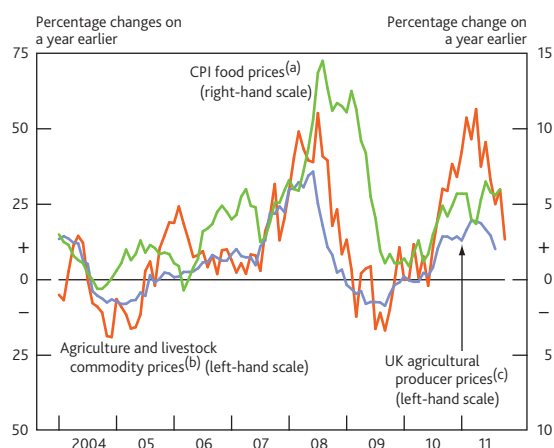
That strength in foreign export price inflation during 2010 and 2011 H1 in turn reflects past increases in commodity prices. Higher non-energy commodity prices have pushed up global inflation. And increases in energy prices have also contributed indirectly to higher world prices through companies' costs.

Much of the increase in import prices since 2007 has probably already passed through into UK retail prices. It is likely that there is still some further pass-through from past increases to come. But the outlook for inflation will also depend on the evolution of UK import prices.

Weaker global demand growth is likely to exert downward pressure on foreign producers' export prices, and hence UK import prices. For example, as discussed earlier, metals prices have fallen sharply in recent months (**Chart 4.5**), probably reflecting the deterioration in world growth prospects.

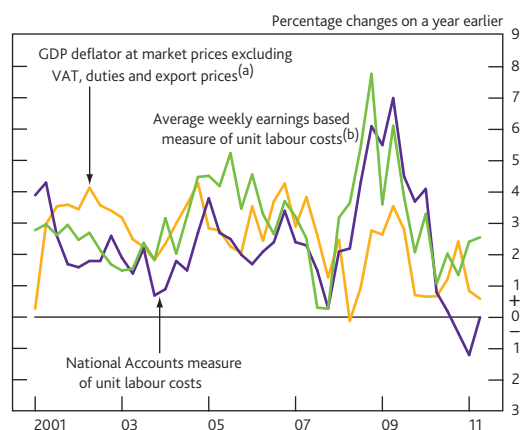
In addition, global food commodity price inflation has fallen back sharply in recent months and UK agricultural producer

(1) See Saporta, V, Trott, M and Tudela, M (2009), 'What can be said about the rise and fall in oil prices?', *Bank of England Quarterly Bulletin*, Vol. 49, No. 3, pages 215–25.

Chart 4.7 Sterling food prices

Sources: Department for Environment, Food and Rural Affairs, ONS, Standard & Poor's, Thomson Reuters Datastream and Bank calculations.

- (a) The latest observation is September 2011.
 (b) Monthly average of daily S&P (dollar) commodity price index, converted into sterling using monthly average of market exchange rates. The latest observation is October 2011.
 (c) The latest observation is August 2011.

Chart 4.8 Measures of domestically generated inflation

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

- (a) Export prices include a contribution from imported components, so this measure uses an estimate of export prices excluding the contribution from import prices.
 (b) Calculated using average weekly earnings data, adjusted using the ratio of National Accounts compensation and wages and salaries data, and divided by output per worker.

price inflation has slowed (**Chart 4.7**). Those weaker cost pressures may lead to lower UK retail food price inflation over coming months. And anecdotal evidence and reports from the Bank's Agents suggest that efforts to boost market share have led to price reductions in a number of UK supermarkets. That should also put downward pressure on food consumer price inflation.

4.2 Domestically generated inflation

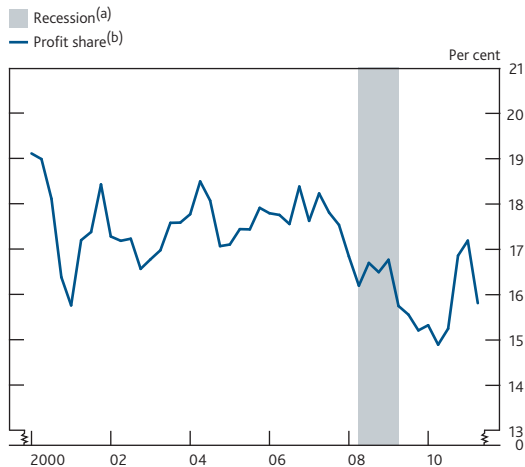
Measures of domestically generated inflation seek to exclude the effects of external shocks, and thus to provide information about the pressure being exerted on prices by domestic conditions. If the effects of those shocks to inflation are temporary, then, once their impact has dissipated, inflation is likely to be closer to the rate of domestically generated inflation. Estimates of domestically generated inflation do not, however, provide a direct measure of what inflation would have been in the absence of such transient factors. For example, high energy prices reduce households' real incomes, and so bear down on domestic demand and domestically generated inflation.

Indicators of domestically generated inflation suggest that domestic price pressures have generally been subdued over the recent past. For example, a measure of whole-economy domestic prices, excluding indirect taxes, has been low (the orange line in **Chart 4.8**). An alternative approach is to look at companies' domestic costs — the most significant of which is labour costs. Companies' pricing decisions are likely to be related to their labour costs on each unit of output produced. The National Accounts measure of unit labour cost growth has recently been extremely weak (the purple line in **Chart 4.8**). That is mainly due to very low wages and salaries growth on a year earlier, in part reflecting a sharp rise in wages and salaries during 2010, which should drop out of the four-quarter comparison in 2011 Q3. Hence unit labour cost growth on this measure is likely to pick up. In contrast, average weekly earnings (AWE) growth has been somewhat higher. Consequently a measure of unit labour cost growth based on AWE has been stronger (the green line in **Chart 4.8**), although it remains a little below its 2001–07 average.

Domestically generated inflation will be primarily determined by companies' labour costs. But in the short run, companies' pricing decisions relative to costs also matter. The remainder of this subsection considers developments in profit margins, labour costs, and inflation expectations. The latter is a key determinant of companies' and households' wage and price decisions.

Profit margins

The latest National Accounts data suggest that companies' profit margins, in aggregate, have been rebuilt somewhat over the past year, although they fell in 2011 Q2 and remain below

Chart 4.9 Corporate profit share (excluding financial corporations and the oil sector)

Sources: ONS and Bank calculations.

- (a) A recession is defined as at least two consecutive quarters of falling output (at constant market prices) estimated using the latest data. The recession is assumed to end once output began to rise.
- (b) PNFCS' gross operating surplus (excluding the alignment adjustment) minus the gross trading profits of continental shelf companies, divided by gross value added at factor cost.

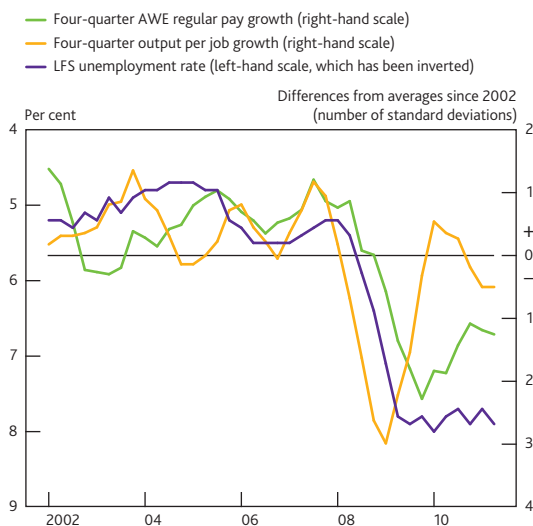
Table 4.A Private sector earnings^(a)

Percentage changes on a year earlier

	Averages 2001–07	2009	2010		2011		
			H1	H2	Q1	Q2	Aug. ^(b)
(1) AWE regular pay	3.9	1.2	0.8	2.1	1.9	2.3	1.7
(2) Pay settlements ^(c)	3.3	2.5	1.6	1.7	1.9	2.1	2.1
(1)–(2) Regular pay drift ^(d)	0.6	-1.3	-0.9	0.4	0.0	0.2	-0.5
(3) Total AWE	4.3	-1.0	2.1	1.9	2.3	2.9	2.7
(3)–(1) Bonus contribution ^(d)	0.4	-2.1	1.3	-0.3	0.4	0.6	1.0

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

- (a) Based on quarterly data unless otherwise stated.
- (b) Data in the two months to August.
- (c) Average over the past twelve months, based on monthly data.
- (d) Percentage points.

Chart 4.10 Whole-economy regular pay, labour productivity and the unemployment rate

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

their pre-recession average level (Chart 4.9). The outlook for consumer prices is most directly dependent on domestically facing companies' profits. And it is likely that domestically oriented companies' margins have fallen relative to the aggregate profit share since 2007. That is because the aggregate measure has probably been boosted by a rise in exporting companies' margins: exporters appear to have largely maintained their foreign currency prices when sterling depreciated during 2007 and 2008, leading to a rise in their sterling prices and their margins.

A recovery in the profit margins of domestically oriented companies could lead to some upward pressure on consumer prices. Profit margins can remain lower than usual for a period, especially if demand is weak, but they will eventually need to rise in order to maintain the rate of return on capital. That could occur as resources are shifted towards the export sector, encouraged by higher margins for exporters. The rise in domestically facing companies' margins could occur through weak labour cost growth in the consumer sector, with little pressure on domestic prices. But if domestically oriented businesses attempt to rebuild margins through higher prices, that could put upward pressure on CPI inflation.

Labour costs

Earnings growth has picked up somewhat in 2011, but remains well below its pre-recession average (Table 4.A). That rise in earnings growth largely reflects higher contributions from bonuses. In particular, bonuses in the financial sector have increased. Bonus payments are typically linked to past performance, so recent increases may contain limited information about future pay pressures.

Private sector settlements remained low, although they have continued to drift up over the past few months. The twelve-month mean settlement was 2.2% in September. One influence on settlements is the National Minimum Wage, which increased by 2.5% on 1 October 2011. That rise will affect some jobs directly, but there could also be some upward pressure on the wages paid for other jobs if existing pay differentials are maintained. Past rises in the National Minimum Wage do not appear to have had a widespread effect on earnings, however, and the increase this year is not substantially higher than recent settlements.

Wage growth not attributable to either bonuses or settlements — referred to as regular pay drift — remains extremely weak (Table 4.A). Regular pay drift tends to capture changes in earnings related to working patterns and merit pay, so its weakness may be related to recent subdued productivity growth.

Alongside weak productivity growth, higher unemployment is likely to have contributed to low growth in pay over the past few years (Chart 4.10). Those influences may have been partly

Table 4.B Indicators of longer-term inflation expectations

Per cent	Averages since 2006 ^(a)	2010	2011			
			Q1	Q2	Q3	Q4 ^(b)
Expectations (number of years ahead)						
Households						
Bank/NOP (5) ^(c)	3.1	3.2	3.5	3.3	3.5	n.a.
Barclays Basix (5) ^(c)	3.8	3.8	4.4	3.0	4.0	n.a.
YouGov/Citigroup (5–10) ^(c)	3.4	3.3	3.6	3.7	3.7	3.4
Professional forecasters						
Bank forecasters' survey (3)	2.0	2.0	2.1	2.2	2.1	2.2
HMT forecasters' survey (4) ^(d)	2.1	2.2	2.0	2.1	2.1	n.a.
Market-based						
RPI implied from swaps (5) ^(e)	3.5	3.5	3.4	3.4	3.3	3.3

Sources: Bank of England, Barclays Capital, Bloomberg, Citigroup, GfK NOP, HM Treasury, YouGov and Bank calculations.

(a) Since 2009 Q1 for Bank/NOP data. Since 2008 Q3 for Barclays Basix data.

(b) YouGov/Citigroup data are for October. RPI implied from swaps data are averages from 1 October to 9 November.

(c) The questions ask about expected changes in prices, but do not reference a specific price index. Measures are based on the median estimated price change.

(d) Taken from *Forecasts for the UK economy: a comparison of independent forecasts*. Based on the average of medium-term projections.

(e) Five-year, five-year forward RPI inflation implied from swaps.

offset by some compensation for the squeeze in real incomes from rises in VAT, energy and import prices, or upward pressure in light of higher expected inflation. For example, the recent *XpertHR Pay Prospects Survey* suggests that around 70% of private sector companies expect recent elevated inflation to lead to higher wages over the coming year. But, overall, the survey indicated that pay pressures were likely to remain subdued: the median settlement was expected to be just 2.5% over the year to August 2012. The MPC judges that earnings growth is likely to remain weak given the degree of slack in the labour market and the outlook for demand (Section 5).

Inflation expectations

Whether domestically generated inflation remains low depends, in part, on developments in inflation expectations. Recent evidence on longer-term inflation expectations has been somewhat mixed. Indicators of households' inflation expectations have risen since 2010, although the October YouGov/Citigroup survey showed a fallback (**Table 4.B**). Expectations of professional forecasters and a market-based indicator derived from inflation swaps have remained stable, and close to their series averages.

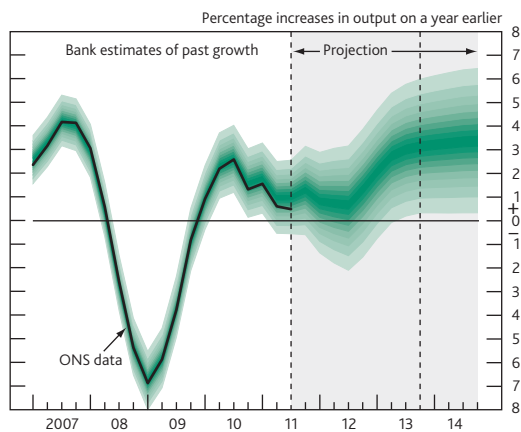
Even if long-term inflation expectations remain anchored, inflation may remain above the target for longer than in the past if companies and households believe that inflation will fall back relatively slowly. Responses to the Bank/NOP survey suggest that households expected inflation to fall by only around 1.5 percentage points from its recent perceived level over the next two years.

Overall, recent evidence on inflation expectations has been mixed, but expectations appear to remain broadly anchored. The MPC will continue to monitor indicators of inflation expectations closely.

5 Prospects for inflation

The outlook for the UK economy has worsened. Global growth has slowed. And increased concerns about the solvency of some euro-area countries have been accompanied by heightened strains in bank and some sovereign funding markets, and by falls in household and business confidence. Together with continuing headwinds from fiscal consolidation and weak real income growth, these factors are likely to mean that UK growth remains subdued in the near term, before picking up further ahead. CPI inflation is likely to be around its peak at present, and should fall sharply next year as the contributions of VAT, energy and import prices decline, while a continuing margin of economic slack weighs on wages and prices. How fast and how far inflation will fall are uncertain, but, under the assumptions that Bank Rate moves in line with market interest rates and the stock of purchased assets remains at £275 billion, inflation is judged more likely to be below the target than above it at the forecast horizon.

Chart 5.1 GDP projection based on market interest rate expectations and £275 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 £275 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. And on the remaining 10 out of 100 occasions GDP growth can fall anywhere outside the green area of the fan chart. Over the forecast period, this has been depicted by the light grey background. In any quarter of the forecast period, the probability mass in each pair of identically coloured bands sums to 10%. The distribution of that 10% between the bands below and above the central projection varies according to the skew at each quarter, with the distribution given by the ratio of the width of the bands below the central projection to the bands above it. In Chart 5.1, the probabilities in the lower bands are slightly larger than those in the upper bands at Year 1, but they are the same at Years 2 and 3. See the box on page 39 of the November 2007 *Inflation Report* for a fuller description of the fan chart and what it represents. The second dashed line is drawn at the two-year point of the projection.

5.1 The projections for demand and inflation

The key focus for monetary policy is the medium-term outlook for inflation, around which there continue to be substantial uncertainties. Since the *August Report*, the worsening global backdrop has increased the likelihood that the margin of spare capacity in the UK economy will widen further and drag inflation below the 2% target. But the extent of that margin of economic slack will depend not only on how much demand growth slows. There is also considerable uncertainty around the evolution of potential supply in recent years, and over its likely path in the years ahead.

Chart 5.1 shows the outlook for real GDP growth, on the assumption that Bank Rate follows a path implied by market interest rates. Along with all the other charts displaying the MPC's latest projections in this section, Chart 5.1 assumes that the stock of purchased assets financed by the issuance of central bank reserves remains at £275 billion throughout the forecast period. Changes to the ONS methodology for measuring real GDP, described in a box on pages 20–21 of this *Report*, mean that for given paths of nominal spending and prices observed in the economy, measured real growth has been, and is likely to be in future, about 0.3 percentage points per year higher than under the previous methodology. That shifts upward the distribution for growth in Chart 5.1, relative to previous MPC projections.

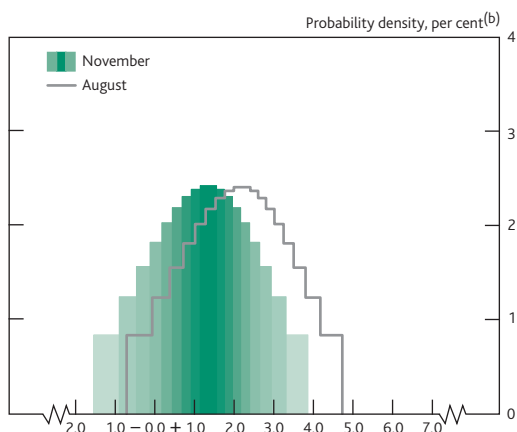
Output appears likely to be broadly flat in the final quarter of 2011. Growth has been weak throughout the past year, reflecting a fall in real household incomes, persistently tight credit conditions and the effects of the continuing fiscal

consolidation. More recently growth has also been buffeted by headwinds from the deterioration in the global outlook, heightened strains in financial markets and banking systems, and an accompanying decline in confidence among UK businesses and households. With all those factors continuing to weigh on spending, the outlook for growth over the first year of the forecast is significantly weaker than in the *August Report* (Chart 5.2), despite the latest projections being conditioned on a lower assumed path for Bank Rate and a larger stock of asset purchases.

Growth is judged likely to recover over the second and third years of the forecast period, driven by a moderate recovery in global demand and a resumption in UK private domestic demand growth. Domestic spending should be supported by a gentle recovery in households' real income growth, and by the continuing effects of stimulatory monetary policy. Over the second half of the forecast period, the outlook for growth is broadly similar to that in August (Chart 5.3). But given the weakening in the near-term outlook, the level of output is likely to be lower than projected in August throughout the forecast period.

The outlook for growth is unusually uncertain, reflecting in particular the exposure of the UK economy to developments in the euro area. Several euro-area countries face considerable challenges in improving their competitiveness and ensuring their fiscal and external solvency. A credible and effective policy response that reduced uncertainty would alleviate the drag on global and UK spending. But failure to respond successfully to those challenges would have significant adverse consequences for the world and UK economies. To the extent that such risks have affected asset prices, bank funding costs and confidence, they will have affected the MPC's projections.

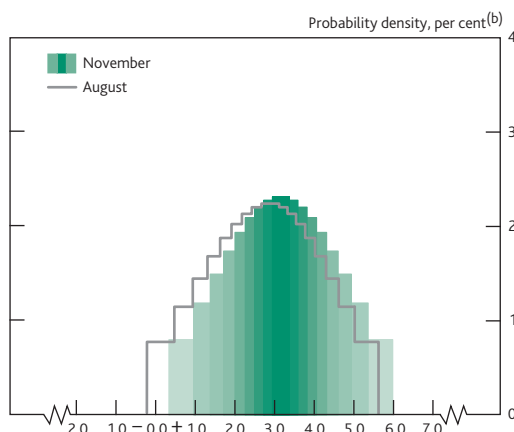
Chart 5.2 Projected probabilities of GDP growth in 2012 Q4 (central 90% of the distribution)^(a)



(a) Charts 5.2 and 5.3 represent cross-sections of the GDP growth fan chart in 2012 Q4 and 2013 Q4 for the market interest rate projection. They have been conditioned on the assumption that the stock of purchased assets financed by the issuance of central bank reserves reaches £275 billion and remains there throughout the forecast period. The coloured bands in Charts 5.2 and 5.3 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 GDP growth in 2012 Q4 and 2013 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. The grey outlines in Charts 5.2 and 5.3 represent the corresponding cross-sections of the August 2011 *Inflation Report* fan chart, which was conditioned on the assumption that the stock of purchased assets financed by the issuance of central bank reserves remained at £200 billion throughout the forecast period.

(b) Average probability within each band; the figures on the y-axis indicate the probability of growth being within ± 0.05 percentage points of any given growth rate, specified to one decimal place. 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 Projected probabilities of GDP growth in 2013 Q4 (central 90% of the distribution)^(a)



Financial and energy market assumptions

As a benchmark assumption, the projections for GDP growth and CPI inflation described in **Charts 5.1** and **5.6** 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 at 0.5% until 2012 Q4 and to gradually rise thereafter. The path for Bank Rate at the time of the November *Report* was, on average, 0.4 percentage points lower than that assumed in the August *Report*.

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

	Per cent											
	2011 Q4 ^(b)	2012				2013				2014		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
November	0.5	0.5	0.5	0.5	0.6	0.6	0.7	0.8	0.9	1.0	1.1	1.2
August	0.5	0.6	0.6	0.7	0.8	0.9	1.0	1.2	1.4	1.5	1.7	1.9

(a) The data are fifteen working day averages of one-day forward rates to 9 November 2011 and 3 August 2011 respectively. The curves are based on overnight index swap (OIS) rates.

(b) November figure for 2011 Q4 is an average of realised spot rates to 9 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 £275 billion and remains at that level throughout the forecast period, higher than the assumption of £200 billion of purchases assumed in the August projections.

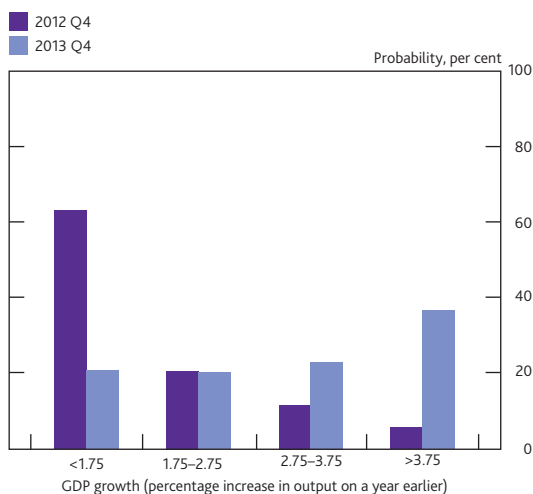
The starting point for sterling's effective exchange rate index (ERI) in the MPC's projections was 80.1, the average for the fifteen working days to 9 November. That was 1.1% above the starting point for the August projections. Under the MPC's usual convention,⁽¹⁾ the exchange rate is assumed to be similar in 2013 Q4 and is higher throughout the forecast period than assumed in August.

The starting point for UK equity prices in the MPC's projections was 2852 — the average of the FTSE All-Share for the fifteen working days to 9 November. That was 6% below the starting point for the August projection.

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 10% lower (in US dollar terms) compared with at the time of the August *Report*. Wholesale gas futures prices were around 7% lower over the forecast period. The November projections for CPI inflation are conditioned on a benchmark assumption of further increases in domestic gas and electricity prices in Q4, as those energy suppliers who had not increased their prices by September raise prices in line with their announced plans.

(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.

Chart 5.4 Frequency distribution of GDP growth based on market interest rate expectations and £275 billion asset purchases^(a)

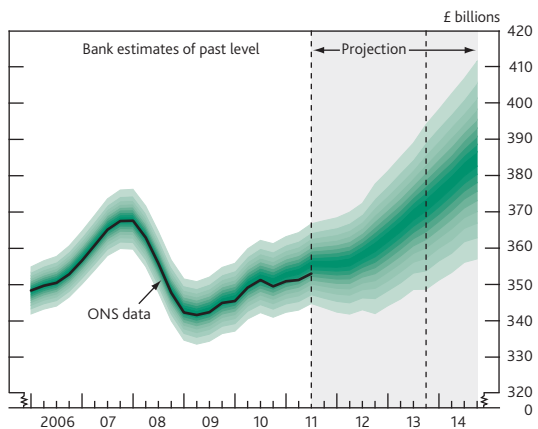


(a) These figures are derived from the same distribution as Chart 5.1. They represent the probabilities that the MPC assigns to GDP growth lying within a particular range at a specified time in the future.

But the MPC sees no meaningful way to quantify the most extreme outcomes in the euro area and, as was the case in the August *Report*, they are therefore excluded from the fan charts.

Domestically, there are also uncertainties around the impact of the Committee's asset purchases on nominal demand, and over how much domestic headwinds, including the fiscal consolidation, tight credit conditions, and the continuing desire by households and businesses to repair their balance sheets, will restrain spending. There remains a range of views among Committee members about the likely strength of these factors. Based on the conditioning assumptions described above, the Committee's best collective judgement is that by the second year of the forecast period, growth is somewhat more likely to be above its historical average than below it (**Chart 5.4**). The risks around the most likely path for growth are judged to be skewed to the downside in the near term, largely reflecting the risks around the global recovery, but broadly balanced further ahead.

Chart 5.5 Projection of the level of GDP based on market interest rate expectations and £275 billion asset purchases



Chained-volume measure (reference year 2008). 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.

GDP is likely to remain significantly below the level corresponding to a continuation of its pre-recession trend (Chart 5.5). The Committee's central judgement is that a substantial part of the shortfall relative to that pre-recession trend reflects a period of low underlying productivity growth in recent years. And potential supply growth may remain subdued, either because of further weakness in underlying productivity growth, or if persistently elevated unemployment leads some people to withdraw from the labour market or lose skills making it less likely they will be able to find work. Nonetheless, a substantial margin of economic slack is likely to persist throughout the next three years.

Chart 5.6 shows the outlook for four-quarter CPI inflation, on the same conditioning assumptions. Inflation has been boosted by the effects of higher VAT, energy and import prices, but is now likely to be around its peak, and should fall sharply over 2012 as the contribution of those factors diminishes.

There are substantial uncertainties, however, over how fast and how far inflation will fall. Inflation will continue to be sensitive to the paths of import prices and global commodity prices, and to the evolution of businesses' profit margins. And there are substantial uncertainties over the degree to which slack in the economy will weigh on prices. That will depend not only on the path of demand, but also on the evolution of potential supply, and on the sensitivity of wages and prices to that spare capacity. There remains a range of views among Committee members over the likely effects of these various influences. Chart 5.8 shows the Committee's best collective judgement of the probability of inflation being above the 2% target, and the corresponding probability from the August Report projection. On balance, the Committee judges

Chart 5.6 CPI inflation projection based on market interest rate expectations and £275 billion asset purchases

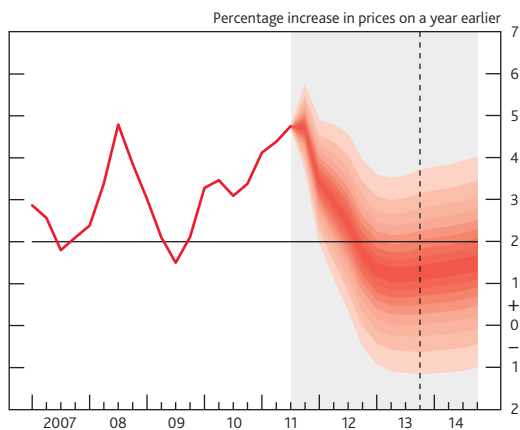
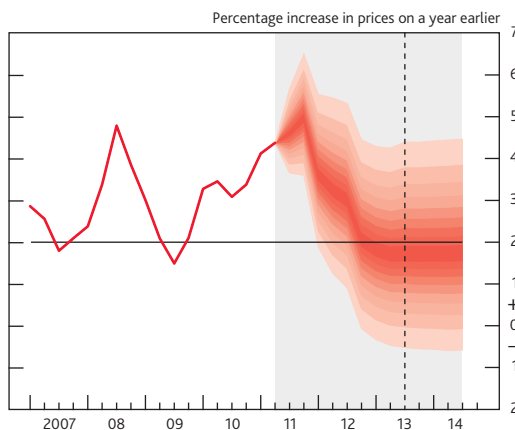
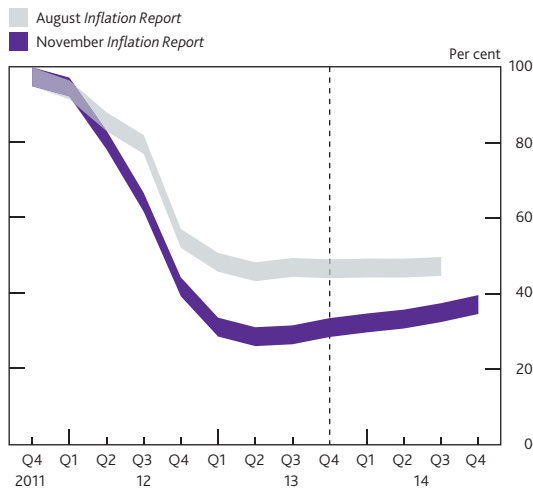


Chart 5.7 CPI inflation projection in August based on market interest rate expectations and £200 billion asset purchases



Charts 5.6 and 5.7 depict the probability of various outcomes for CPI inflation in the future. Chart 5.6 is conditioned on the assumption that the stock of purchased assets financed by the issuance of central bank reserves reaches £275 billion and remains there throughout the forecast period. Chart 5.7 was conditioned on the assumption that the stock of purchased assets financed by the issuance of central bank reserves remained at £200 billion 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. And on the remaining 10 out of 100 occasions inflation can fall anywhere outside the red area of the fan chart. Over the forecast period, this has been depicted by the light grey background. In any quarter of the forecast period, the probability mass in each pair of identically coloured bands sums to 10%. The distribution of that 10% between the bands below and above the central projection varies according to the skew at each quarter, with the distribution given by the ratio of the width of the bands below the central projection to the bands above it. In Chart 5.6, the probabilities in the lower bands are the same as those in the upper bands at Years 1, 2 and 3. In Chart 5.7, the probabilities in the lower bands are slightly smaller than those in the upper bands at Years 1, 2 and 3: the upward skews in Year 1 are smaller than those at Years 2 and 3. 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 5.8 An indicator of the probability that inflation will be above the target



The November and August swathes in this chart are derived from the same distributions as Charts 5.6 and 5.7 respectively. They indicate the assessed probability of inflation being above target in each quarter of the forecast period. The 5 percentage points width of the swathes reflects the fact that there is uncertainty about the precise probability in any given quarter, but they should not be interpreted as confidence intervals. The dashed line is drawn at the two-year point of the November projection. The two-year point of the August projection was one quarter earlier.

that, based on the conditioning assumptions described above, inflation is more likely to be below the target than above it at the forecast horizon, given continuing downward pressure on pay and prices from some margin of economic slack. Relative to the most likely path for inflation, the risks are judged to be broadly balanced.

Charts 5.9 and 5.10 show the projected spread of outcomes for CPI inflation at the end of 2012 and 2013, and the equivalent spreads at the time of the August Report. The inflation projection is lower than in August (Chart 5.7), reflecting the effects of the lower projected level of output on wages and prices. Chart 5.11 shows frequency distributions for inflation: at the end of the forecast period, there is judged to be a roughly three-in-four chance that inflation will be half a percentage point or more away from the target, but with larger probabilities to the downside than to the upside.

5.2 Key judgements and risks

Global growth has slowed, and there have been falls in business and household confidence across many of the United Kingdom's most important export markets and significant strains in financial markets. These developments are also likely to have played a role in the slowing in the UK economy. There are substantial uncertainties over how these global developments will evolve, and how they, together with the substantial domestic headwinds also restraining spending, will affect the demand for UK output over the forecast period.

How strongly will the world economy grow?

Major imbalances remain in the world economy, and they continue to pose a challenge to the global recovery. In

Chart 5.9 Projected probabilities of CPI inflation outturns in 2012 Q4 (central 90% of the distribution)^(a)

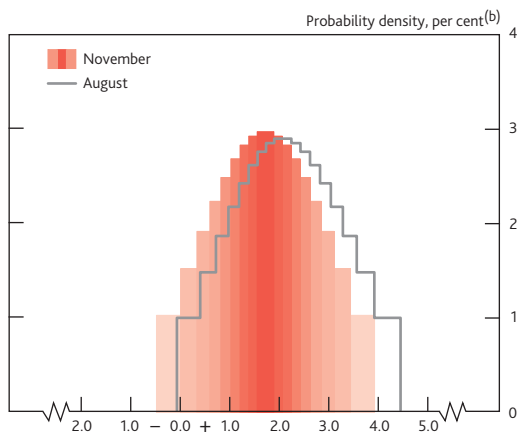
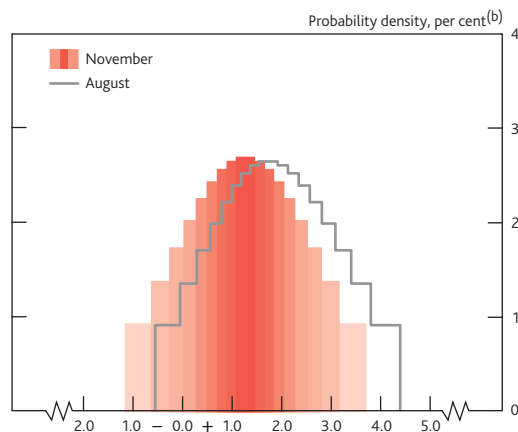


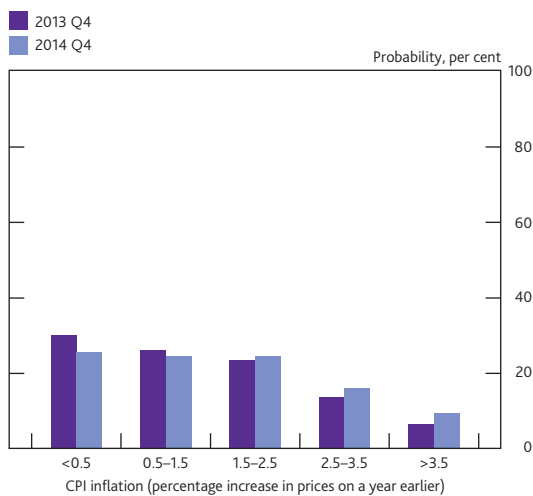
Chart 5.10 Projected probabilities of CPI inflation outturns in 2013 Q4 (central 90% of the distribution)^(a)



(a) Charts 5.9 and 5.10 represent cross-sections of the CPI inflation fan chart in 2012 Q4 and 2013 Q4 for the market interest rate projection. They have been conditioned on the assumption that the stock of purchased assets financed by the issuance of central bank reserves reaches £275 billion and remains there throughout the forecast period. The coloured bands in Charts 5.9 and 5.10 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 2012 Q4 and 2013 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. The grey outlines in Charts 5.9 and 5.10 represent the corresponding cross-sections of the August 2011 Inflation Report fan chart, which was conditioned on the assumption that the stock of purchased assets financed by the issuance of central bank reserves remained at £200 billion throughout the forecast period.

(b) Average probability within each band; the figures on the y-axis indicate the probability of inflation being within ± 0.05 percentage points of any given inflation rate, specified to one decimal place. 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 5.11 Frequency distribution of CPI inflation based on market interest rate expectations and £275 billion asset purchases^(a)



(a) These figures are derived from the same distribution as Chart 5.6. They represent the probabilities that the MPC assigns to CPI inflation lying within a particular range at a specified time in the future.

particular, some euro-area countries need to rebalance their economies, and make substantial improvements in competitiveness, in order to stabilise their public and external debt positions. Concerns over the sustainability of those debt positions have led to increases in the cost of borrowing for those countries, strains in bank funding markets and widespread falls in confidence.

The package of measures recently announced by euro-area leaders is designed to provide more time for that adjustment to take place. But even if successful, the process of rebalancing is likely to act as a continuing drag on demand in the euro-area periphery, as fiscal consolidation continues and wage growth is depressed in order to regain competitiveness.

There is a high degree of uncertainty over how that adjustment process will unfold. The Committee's central judgement is that, given the headwinds impeding demand in the euro area, net trade is likely to provide only modest support to UK growth over the forecast period. But there are major risks, in both directions, around that judgement. Credible and decisive policy measures could lead to a more rapid recovery in global confidence, and a larger boost to UK growth from net exports. But to the downside, failure to tackle successfully the vulnerabilities in the euro area, and any related intensification of financial market stresses, could result in a much weaker external environment. Overall, the risks around external demand are judged to be skewed to the downside, particularly in the near term. As was the case in the *August Report*, the MPC sees no meaningful way to quantify the most extreme outcomes in the euro area, and they are therefore excluded from its fan charts.⁽¹⁾

How will credit conditions evolve?

Concerns over the pace of global growth, and over the exposure of European banks to the debts of vulnerable euro-area countries, have resulted in strains on banking systems abroad and in the United Kingdom (Section 1).

Those strains in bank funding markets do not appear, so far, to have been passed through into a further material tightening in credit conditions. And the Committee's central judgement is that conditions in bank funding markets should improve gradually over the forecast period. That should enable spreads between risk-free rates and the interest rates paid by UK households and businesses to fall somewhat, albeit to levels still well above those seen just before the onset of the financial crisis. But if strains in bank funding markets persist, credit conditions for UK businesses and households are likely to become materially tighter, as banks pass on higher funding costs to borrowers and scale back lending, putting further downward pressure on nominal demand.

(1) See the box on page 38 of the *August Report* for a fuller discussion of these issues.

How much will domestic headwinds hold back spending?

Domestic demand over the past year has been hampered by falling real household incomes, tight credit conditions, and the effects of the continuing fiscal consolidation. More recently, heightened uncertainty associated with international developments and the stresses in financial markets has probably weighed on UK spending. Domestic spending should be boosted as household real income growth recovers and companies revive previously postponed expenditure plans.

There are some upside risks to domestic spending, relative to the Committee's central expectation. The household saving rate could fall markedly, given the effects of declining uncertainty and accommodative monetary policy. Moreover, business investment, which remains around 15% below its pre-recession peak, may recover earlier and more rapidly, for example as those businesses benefiting from the rebalancing of the UK economy expand capacity.

There are also downside risks, however. It is possible that more of the weakness in demand has reflected domestic headwinds, rather than the transmission of global and financial developments and heightened uncertainty, and that these headwinds will prove persistent. In particular, more of the weakness in household consumption may reflect a desire among households to strengthen their balance sheets. In that case, the recovery in domestic spending could be more muted, even if uncertainty does decline.

How much spare capacity is there within companies, and how rapidly will productivity grow?

The degree of inflationary pressure will be influenced by the evolution of demand, but also by how much spare capacity there is currently within businesses, how strongly productivity grows, and therefore how spare capacity evolves over the forecast period. Those factors are extraordinarily difficult to judge at present.

Productivity remains far below a continuation of its pre-crisis trend (Section 3). That may reflect some businesses holding on to employees despite lower activity, due to worries that it would be difficult to recruit suitably skilled staff when demand recovers. Such labour hoarding may have been aided by the low level of Bank Rate, and perhaps by forbearance by banks and other creditors. In that case, the weakness in productivity would be consistent with a substantial margin of spare capacity remaining within companies, leaving scope for the economy to grow more rapidly than usual if demand recovers, without any build-up of inflationary pressure.

Other evidence for a wide margin of spare capacity within businesses is hard to come by, however. Business surveys suggest only a limited margin of slack, on average. And relatively strong private sector employment growth over 2010

and the first half of 2011 is hard to square with widespread labour hoarding. Instead, those indicators suggest that underlying productivity growth stalled during the recession and subsequent recovery.

The causes of such a marked moderation in underlying productivity growth remain unclear. It could be associated with some impairment in the ability of the financial sector to allocate capital efficiently as a result of the financial crisis, and the consequent need for some businesses to economise on their use of working capital. Some businesses may have cut back on types of spending that sustain productivity growth, such as training and product research and development. Or the moderation may simply suggest that underlying productivity, and therefore potential supply, is closely linked to the evolution of demand.

The inherent uncertainty in any evaluation of the past growth of underlying productivity means that there is also a wide margin of uncertainty around its future evolution. The Committee judges that the most likely outcome is for underlying productivity growth to return to closer to its historical average rate over the forecast. Given the projected weakness in demand, particularly in the near term, that means that the margin of slack in the economy is likely to widen. But there are substantial risks, in both directions, around that judgement for underlying productivity growth, and therefore for the degree of slack in the economy over the forecast period.

How much will slack in the labour market weigh on wage growth and inflation?

High unemployment suggests that there is already a substantial degree of slack in the labour market. That could increase if demand is weak, especially if those companies that have hoarded labour decide to stop doing so. Increased slack in the labour market is likely to continue to bear down on wage growth, and therefore on inflation, throughout the forecast period.

There are, however, a number of forces that may dampen that downward pressure on pay. First, the sustained period of above-target inflation, and the accompanying squeeze in employees' real incomes, could lead to some subsequent pressure for higher wages. Second, weak productivity growth is also likely to have played a role in restraining wage growth: a revival in productivity growth would enable businesses to pay higher wages. And third, if unemployment remains persistently elevated, its effect on wages may moderate over time. For example, as the economy rebalances towards the production of tradable goods and services, some of the unemployed may find that they lack suitable skills. Others, particularly the long-term unemployed, may withdraw from the labour market over time, or their skills may atrophy.

The Committee judges that these factors are likely partially to offset the downward influence on wages of subdued demand and employment, and so contribute to a gradual rise in pay growth over the second and third years of the forecast period. Nonetheless, a persistent margin of slack in the labour market should continue to weigh on earnings, exerting some degree of downward pressure on inflation throughout the forecast. But there are significant risks in both directions around the extent of that downward pressure in the medium term.

How rapidly will inflation fall back, and how will inflation expectations evolve?

Economic slack is only one determinant of inflation. CPI inflation is well above the MPC's target, despite elevated unemployment and some margin of slack within businesses. In large part that reflects three factors: the impact of the increase in VAT at the beginning of 2011; rapid rises in import prices; and increases in global and domestic energy prices. The contribution to inflation from those factors should soon start to diminish (Section 4), leading inflation to fall back throughout 2012.

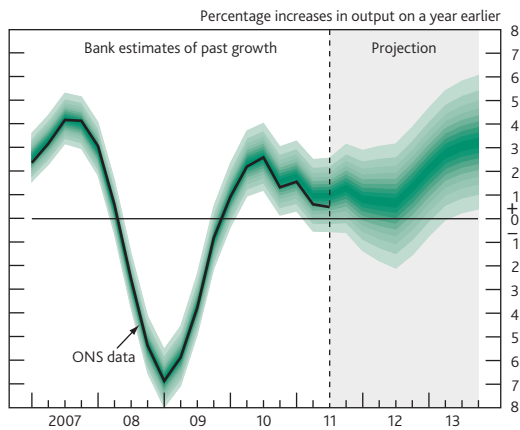
The pace at which inflation will drop, however, is uncertain. Despite some recovery over the past year, companies' profit margins remain below their average level in the years prior to the recession (Section 4). A further recovery in margins could put upward pressure on prices. In addition, the Committee's central judgement is that the impact on inflation from rising import prices has now peaked. But there could be more upward pressure still to come, for example if the suppliers of some domestically produced goods and services have still not yet fully adjusted to the consequences of higher import prices, and in particular to increases in the prices of imported products with which they compete.

Those risks mean that inflation could fall back somewhat more slowly than the Committee's central expectation. And that would exacerbate the risk that households and businesses come to expect inflation to remain elevated for a prolonged period. That in turn could feed through into faster pay growth, increasing companies' costs, or it could directly influence companies' pricing behaviour.

5.3 Summary and the policy decision

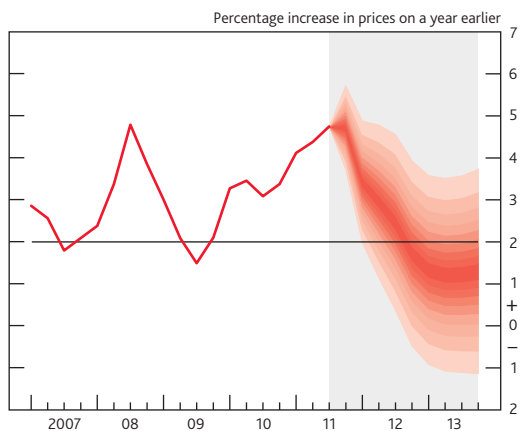
The outlook for demand growth appears to have weakened significantly. By itself, that would increase the margin of economic slack and put additional downward pressure on inflation. But the extent of that downward pressure will also depend on the evolution of potential supply growth, which is highly uncertain. And inflation will also be sensitive to the evolution of businesses' profit margins, and to the path of energy and import prices. There remains a range of views among Committee members about the strength of the forces influencing supply and demand, and around the overall

Chart 5.12 GDP projection based on constant nominal interest rates at 0.5% and £275 billion asset purchases



See footnote to Chart 5.1.

Chart 5.13 CPI inflation projection based on constant nominal interest rates at 0.5% and £275 billion asset purchases



See footnote to Chart 5.6.

outlook for inflation. The Committee's best collective judgement is that, conditioned on the assumptions described above, inflation is more likely to be below the target than above it at the forecast horizon.

Charts 5.12 and 5.13 show the GDP and CPI inflation projections for the next two years under the alternative assumption that Bank Rate is held constant at 0.5%. As that path for Bank Rate is only marginally lower than the path implied by market interest rates over the next two years, these projections are broadly similar to the fan charts conditioned on market interest rates.

In evaluating the outlook for growth, the Committee will focus on indicators of: the prospects for the world economy, and in particular developments in the euro area; conditions in bank funding markets, and their implications for credit conditions; business and household confidence, and their likely effect on spending; and the evolution of underlying productivity growth and household incomes.

In evaluating the outlook for inflation, the Committee will in addition focus on: the evolution of commodity and import prices; measures of inflation expectations and the impact of expected inflation on pay and prices; indicators of the degree of spare capacity within companies; and the path of unemployment and its effect on wages.

At its November meeting, the Committee judged that GDP growth was likely to be weak in the near term before gathering pace in 2013 and 2014. Inflation was thought to be around its peak and was set to fall back sharply through 2012. The outlook for both growth and inflation was unusually uncertain given its sensitivity to developments in the euro area. The Committee judged it appropriate at that meeting to maintain Bank Rate at 0.5% and the size of the asset purchase programme at £275 billion, in order to meet the 2% CPI 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. The average central projection was for annual CPI inflation to fall back to 2.1% by 2012 Q4 and to remain slightly above the 2% target for the following two years (Table 1). Bank Rate was expected to rise more gradually than projected three months ago. The sterling ERI was also, on average, projected to appreciate more slowly over the next three years.

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

	2012 Q4	2013 Q4	2014 Q4
CPI inflation ^(b)	2.1	2.1	2.2
GDP growth ^(c)	1.3	2.1	2.2
Bank Rate (per cent)	0.5	1.0	1.9
Stock of purchased assets (£ billions) ^(d)	335	357	345
Sterling ERI ^(e)	79.5	80.2	80.8

Source: Projections of outside forecasters as of 2 November 2011.

(a) For 2012 Q4, there were 23 forecasts for CPI inflation, GDP growth and Bank Rate, 21 for the stock of purchased assets and 16 for the sterling ERI. For 2013 Q4, there were 22 forecasts for CPI inflation, 21 forecasts for GDP growth and Bank Rate, 18 for the stock of purchased assets and 15 for the sterling ERI. For 2014 Q4, there were 21 forecasts for CPI inflation and GDP growth, 19 for Bank Rate, 17 for the stock of purchased assets and 15 for the sterling ERI.

(b) Twelve-month rate.

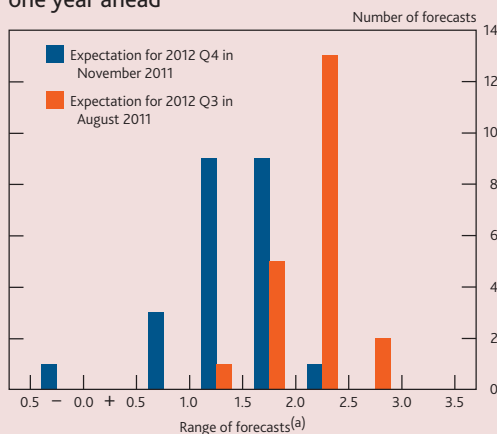
(c) Four-quarter percentage change.

(d) Original purchase value. Purchased via the creation of central bank reserves.

(e) 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.

For GDP, the average central projection for four-quarter growth in 2012 Q4 was 1.3%, with growth expected to pick up over the following two years (Table 1). Near-term projections for growth were significantly weaker than reported three months ago. In the latest survey more than half the respondents expected growth to be below 1.5% one year ahead, compared with only one respondent in the previous survey (Chart A). That was despite the lower average projection for Bank Rate.

Chart A Distribution of GDP growth central projections one year ahead



Sources: Projections of 21 outside forecasters as of 28 August 2011 and 23 outside forecasters as of 2 November 2011.

(a) A projection that is on the boundary of these ranges is classified in the higher bucket. For example, a 1.5% projection is included within the 1.5% to 2.0% bucket.

These forecasts assumed, on average, that asset purchases would exceed the £275 billion already announced. The October survey included a new question on what respondents expected the stock of asset purchases financed by central bank reserves would be. On average, the stock of asset purchases was expected to rise by around an additional £50 billion by the end of 2012 (Table 1).

The Bank also asks forecasters for an assessment of the risks around their central projections for CPI inflation and GDP growth (Table 2). The risks to CPI inflation around the MPC's target were viewed to be broadly balanced, with an average probability of around 50% of inflation being above 2%, at both one year and three years ahead. Consistent with the downward revisions to the central projections for GDP growth, the average probability respondents attached to growth of greater than 3%, both in the near term and the medium term, was lower than three months ago (Chart B).

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

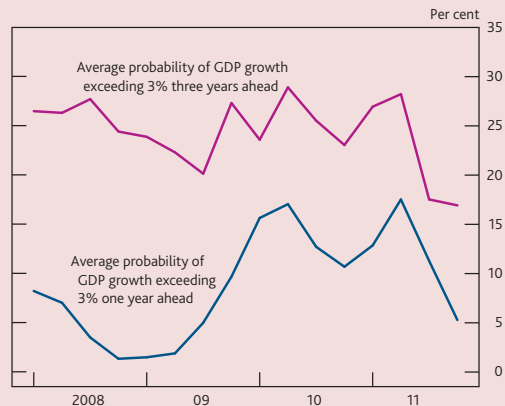
CPI inflation	Range:						
	<0%	0-1%	1-1.5%	1.5-2%	2-2.5%	2.5-3%	>3%
Probability, per cent							
2012 Q4	2	5	14	29	26	17	8
2013 Q4	3	7	14	28	23	14	11
2014 Q4	3	7	13	25	25	17	10

GDP growth	Range:					
	<-1%	-1-0%	0-1%	1-2%	2-3%	>3%
Probability, per cent						
2012 Q4	4	11	27	38	14	5
2013 Q4	4	8	17	32	25	13
2014 Q4	4	7	15	31	26	17

Source: Projections of outside forecasters as of 2 November 2011.

(a) For 2012 Q4, 23 forecasters provided the Bank with their assessment of the likelihood of twelve-month CPI inflation and four-quarter GDP growth falling in the ranges shown above; for 2013 Q4, 22 forecasters provided assessments for CPI and 21 for GDP; for 2014 Q4, 21 forecasters provided assessments for CPI and GDP. The table shows the average probabilities across respondents. Rows may not sum to 100 due to rounding.

Chart B Other forecasters' average probabilities of GDP growth exceeding 3% one year and three years ahead



Sources: Projections of outside forecasters provided for *Inflation Reports* between February 2008 and August 2011.

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Text of Bank of England press notice of 8 September 2011

Bank of England maintains Bank Rate at 0.5% and the size of the Asset Purchase Programme at £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 maintain the stock of asset purchases financed by the issuance of central bank reserves at £200 billion.

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

Text of Bank of England press notice of 6 October 2011

Bank of England maintains Bank Rate at 0.5% and increases size of Asset Purchase Programme by £75 billion to £275 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 increase the size of its asset purchase programme, financed by the issuance of central bank reserves, by £75 billion to a total of £275 billion.

The pace of global expansion has slackened, especially in the United Kingdom's main export markets. Vulnerabilities associated with the indebtedness of some euro-area sovereigns and banks have resulted in severe strains in bank funding markets and financial markets more generally. These tensions in the world economy threaten the UK recovery.

In the United Kingdom, the path of output has been affected by a number of temporary factors, but the available indicators suggest that the underlying rate of growth has also moderated. The squeeze on households' real incomes and the fiscal consolidation are likely to continue to weigh on domestic spending, while the strains in bank funding markets may also inhibit the availability of credit to consumers and businesses. While the stimulatory monetary stance and the present level of sterling should help to support demand, the weaker outlook for, and the increased downside risks to, output growth mean that the margin of slack in the economy is likely to be greater and more persistent than previously expected.

CPI inflation rose to 4.5% in August. The present elevated rate of inflation primarily reflects the increase in the standard rate of VAT in January and the impact of higher energy and import prices. Inflation is likely to rise to above 5% in the next month or so, boosted by already announced increases in utility prices. But measures of domestically generated inflation remain contained and inflation is likely to fall back sharply next year as the influence of the factors temporarily raising inflation diminishes and downward pressure from unemployment and spare capacity persists.

The deterioration in the outlook has made it more likely that inflation will undershoot the 2% target in the medium term. In the light of that shift in the balance of risks, and in order to keep inflation on track to meet the target over the medium term, the Committee judged that it was necessary to inject further monetary stimulus into the economy. The Committee therefore voted to increase the size of its asset purchase programme, financed by the issuance of central bank reserves, by £75 billion to a total of £275 billion. The Committee also voted to maintain Bank Rate at 0.5%. The Committee expects the announced programme of asset purchases to take four 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 19 October.

Text of Bank of England press notice of 10 November 2011

Bank of England maintains Bank Rate at 0.5% and size of Asset Purchase Programme at £275 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 totalling £275 billion financed by the issuance of central bank reserves.

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

The Committee's latest inflation and output projections will appear in the *Inflation Report* to be published at 10.30 am on Wednesday 16 November.

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

Glossary and other information

Glossary of selected data and instruments

ABS – asset-backed security.

AWE – average weekly earnings.

CDS – credit default swap.

CMBS – commercial mortgage-backed security.

CPI – consumer prices index.

CPI inflation – inflation measured by the consumer prices index.

CPIY – consumer prices index excluding indirect taxes.

ERI – exchange rate index.

GDP – gross domestic product.

LFS – Labour Force Survey.

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.

RMBS – residential mortgage-backed security.

RPI – retail prices index.

Abbreviations

BBA – British Bankers' Association.

BCC – British Chambers of Commerce.

BIS – Department for Business, Innovation and Skills.

CBI – Confederation of British Industry.

CFO – chief financial officer.

CIPS – Chartered Institute of Purchasing and Supply.

EFO – *Economic and Fiscal Outlook*.

FTSE – Financial Times Stock Exchange.

GfK – Gesellschaft für Konsumforschung, Great Britain Ltd.

HMRC – Her Majesty's Revenue and Customs.

HMT – Her Majesty's Treasury.

IMF – International Monetary Fund.

ISM – Institute for Supply Management.

MPC – Monetary Policy Committee.

MTIC – missing trader intra-community.

OBR – Office for Budget Responsibility.

OFCs – other financial corporations.

ONS – Office for National Statistics.

PNFCs – private non-financial corporations.

PwC – PricewaterhouseCoopers.

RICS – Royal Institution of Chartered Surveyors.

S&P – Standard & Poor's.

VAT – Value Added Tax.

Symbols and conventions

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

n.a. = not available.

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

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

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