

# Inflation Report

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

The entire *Report* is available in PDF at [www.bankofengland.co.uk/publications/inflationreport/2011.htm](http://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](http://www.bankofengland.co.uk/publications/inflationreport/2011.htm).



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# Overview

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CPI inflation remained well above the 2% target but the recent weakness in underlying output growth persisted. The recovery in the world economy was maintained and is expected to support growth in the United Kingdom, as should the considerable stimulus from monetary policy and the current level of sterling. But the continuing squeeze on households' real incomes is likely to weigh on demand, especially over the next year or so. Further ahead, the chances of four-quarter GDP growth being either above or below its historical average rate are judged to be roughly balanced.

CPI inflation is likely to rise further this year and is more likely than not to remain above the target throughout 2012. The near-term profile is markedly higher than in February, largely reflecting renewed increases in energy prices. Inflation is likely to fall through 2012 into 2013 as the impact of external price pressures and the increase in VAT dissipates and some downward pressure from a margin of spare capacity persists. But the timing and extent of that decline in inflation are both highly uncertain. Under the assumptions that Bank Rate moves in line with market interest rates and the stock of purchased assets financed by the issuance of central bank reserves remains at £200 billion, the chances of inflation being above or below the target in the medium term are judged to be about the same.

## Financial and credit markets

Since the February *Report*, the MPC has maintained Bank Rate at 0.5% and its stock of purchased assets at £200 billion. Financial markets were relatively resilient in the face of the Japanese earthquake and tsunami and the political unrest in the Middle East and North Africa. Market participants lowered their expectations of the near-term path of Bank Rate. The sterling effective exchange rate fell slightly, but remained within its range of the past two years. UK banks continued to make steady progress in replacing maturing funding. Bank lending to businesses declined again, and the availability of bank credit to households and smaller businesses remained tight. Money growth was weak.

## Demand

The world economy continued to grow at a solid pace, but some recent indicators were more mixed and risks remain. The recovery in the euro area was maintained, although market concerns about the fiscal sustainability of some euro-area periphery countries intensified. US unemployment declined, but GDP growth slowed in 2011 Q1 and significant headwinds persist. Activity in emerging economies grew robustly, although several tightened policy in response to heightened inflationary pressures and growth is likely to slow modestly as a consequence. UK exports have grown briskly over the past year and business surveys pointed to continued strong growth.

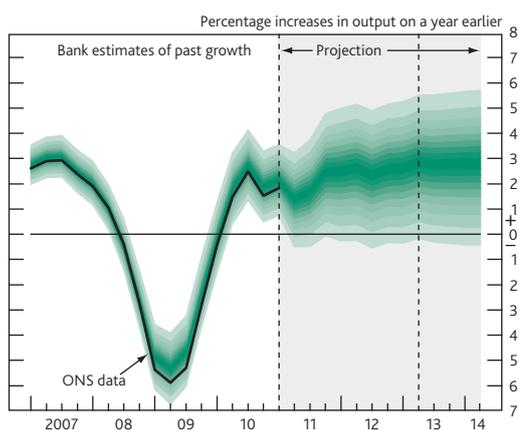
At home, private domestic demand growth slowed sharply in 2010 Q4, in part disrupted by heavy snow. During 2010, private domestic spending grew moderately, largely driven by higher corporate spending, including a material boost from stockbuilding. In contrast, consumer spending stagnated as real incomes fell, reflecting subdued wage growth and the impact of the lower level of sterling and higher commodity prices on import prices. The contrasting fortunes of the household and corporate sectors continued into 2011: households' purchasing power is likely to have fallen further, and surveys suggest that households' confidence was somewhat weaker than that of businesses. Imports grew rapidly during 2010, despite the rise in import prices relative to domestic prices.

The fiscal consolidation continued. The Committee's projections are conditioned on the tax and spending plans set out in the March *Budget*, which were little changed relative to the previous plans.

### The outlook for GDP growth

Despite the rebound in activity following the heavy snow at the end of last year, GDP was provisionally estimated by the ONS to have risen by only 0.5% in 2011 Q1. That was a weaker outturn than expected in the February *Report*, accounted for by a reported large fall in construction output. Business surveys and the growth in employment over recent months suggest that underlying activity may have been stronger than indicated by official output data.

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

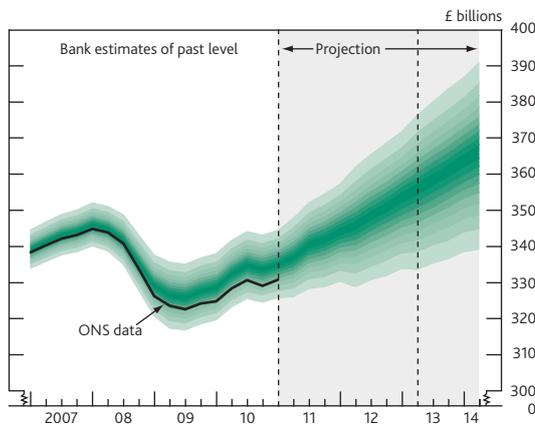


The fan chart depicts the probability of various outcomes for GDP growth. It has been conditioned on the assumption that the stock of purchased assets financed by the issuance of central bank reserves remains at £200 billion throughout the forecast period. To the left of the first vertical dashed line, the distribution reflects the likelihood of revisions to the data over the past; to the right, it reflects uncertainty over the evolution of GDP growth in the future. If economic circumstances identical to today's were to prevail on 100 occasions, the MPC's best collective judgement is that the mature estimate of GDP growth would lie within the darkest central band on only 10 of those occasions. The fan chart is constructed so that outturns are also expected to lie within each pair of the lighter green areas on 10 occasions. In any particular quarter of the forecast period, GDP is therefore expected to lie somewhere within the 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 Years 1, 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 1** shows the Committee's best collective judgement for four-quarter GDP growth, assuming that Bank Rate follows a path implied by market interest rates and the stock of purchased assets financed by the issuance of central bank reserves remains at £200 billion. The projection during the first half of the forecast period is weaker than in February, reflecting the dampening effects of both further increases in energy prices and recent disappointing outturns for productivity on households' future real labour incomes and hence consumption. Fiscal consolidation is likely to continue to weigh on activity throughout the forecast period. But the considerable stimulus from monetary policy, together with strong growth in global demand and the current level of sterling, should support recovery by shoring up private sector spending and encouraging a rebalancing of the economy towards exports and away from imports.

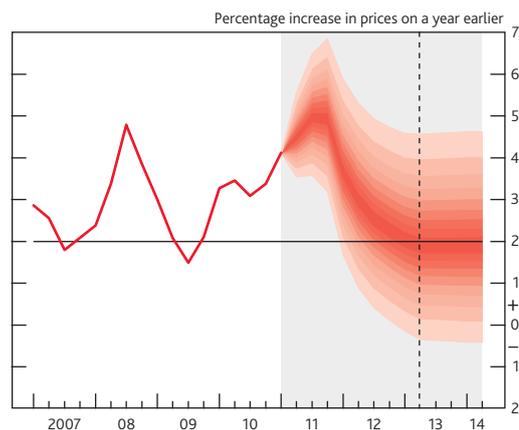
There are some key uncertainties surrounding the likely strength of the recovery. Private domestic demand growth could be boosted if more of the historically large corporate financial surpluses were spent on capital investment or transferred to households in the form of higher wages or dividends. But there are significant downside risks to consumers' expenditure. In particular, some households may cut their spending further if they are still adjusting to past falls

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



Chained-volume measure (reference year 2006). 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.

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



The fan chart depicts the probability of various outcomes for CPI inflation in the future. It has been conditioned on the assumption that the stock of purchased assets financed by the issuance of central bank reserves remains 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 chart is constructed so that outturns of inflation are also expected to lie within each pair of the lighter red areas on 10 occasions. In any particular quarter of the forecast period, inflation is therefore expected to lie somewhere within the fan on 90 out of 100 occasions. 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 slightly smaller than those in the upper bands at Years 1, 2 and 3, albeit that the upward skew in Year 1 is 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 line is drawn at the two-year point.

in their real incomes or to the uncertain economic outlook. That uncertainty may be especially pronounced for those households most exposed to the effects of the fiscal consolidation. The extent to which net trade improves will depend on the durability of the expansion in world demand and on the degree and pace of rebalancing prompted by sterling's past depreciation.

There remains a wider than usual range of views among Committee members about the outlook for growth. The Committee judges that relative to the most likely path — contained within the darkest band in Chart 1 — the risks to growth are skewed to the downside. Taking into account that skew, the Committee's best collective judgement is that GDP growth is likely to be below its historical average rate over the next year or so. Thereafter, growth is about as likely to be above its historical average rate as below it.

Chart 2 shows the distribution for the level of GDP corresponding to the Committee's growth projection, which is somewhat lower than in February. The Committee continues to judge it likely that some margin of spare capacity, although diminishing, will persist throughout the forecast period.

## Costs and prices

CPI inflation was 4.0% in March. That elevated rate of inflation reflects the temporary impacts of three factors: the increase in VAT to 20%; higher energy prices; and higher import prices. Recent increases in the prices of energy and other commodities are likely to put further upward pressure on inflation as they work through the supply chain. These cost pressures were evident in manufacturers' output prices.

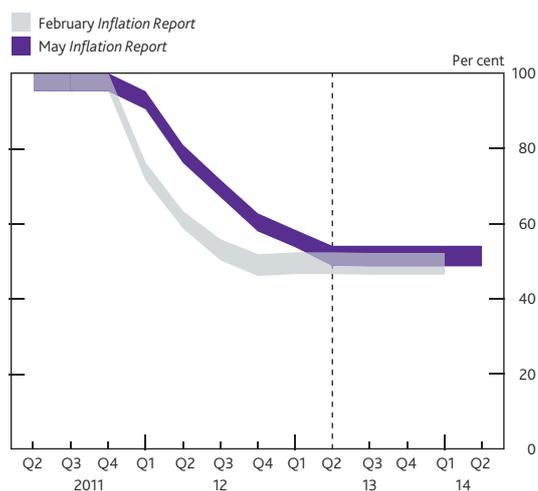
Some measures of households' near-term and longer-term inflation expectations increased further, although the increases in near-term expectations over the past year were less than the upward revision to the MPC's own view of near-term inflation. In contrast, longer-term inflation expectations of professional forecasters and those implied by financial market prices were stable.

Labour productivity has been broadly unchanged since the middle of 2010, some way below its historical trend path. That might suggest that the degree of spare capacity within companies has increased and that there is considerable scope for rapid productivity growth in the future. In contrast, survey evidence points to a more limited amount of spare capacity within companies. Unemployment remained broadly unchanged at an elevated level. Private sector regular pay growth was muted, at close to 2%, reflecting both weak productivity growth and continuing slack in the labour market.

## The outlook for inflation

Chart 3 shows the Committee's best collective judgement for the outlook for CPI inflation, based on the same assumptions

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



The May and February swathes in this chart are derived from the same distributions as Chart 3 and Chart 5.4 on page 39 respectively. They indicate the assessed probability of inflation being above target in each quarter of the forecast period. The width of the swathe at each point in time corresponds to the width of the band of the fan chart in which the target falls in that quarter, or, if the target falls outside the coloured area of the fan chart, the width of the band closest to the target. The bands in the fan chart illustrate the MPC's best collective judgement that inflation will fall within a given range. The swathes in Chart 4 show the probability within the entire band of the corresponding fan chart of inflation being close to target; the swathes should not therefore be interpreted as a confidence interval. The dashed line is drawn at the two-year point of the May projection. The two-year point of the February projection was one quarter earlier.

as **Chart 1**. There is a good chance that inflation will reach 5% later this year and it is more likely than not to remain above the 2% target throughout 2012, boosted by the increase in VAT, higher energy and import prices, and some rebuilding of companies' margins. The projection over that period is markedly higher than in February, mainly reflecting the recent increases in energy prices, including the likelihood that they will lead to higher utility bills. Inflation is likely to fall back through 2012 and into 2013 as the temporary impact of those factors raising inflation wanes and some downward pressure from spare capacity persists. The extent of that fall is likely to be moderated by upward pressure on nominal wages, as the continuing squeeze in real wages is resisted and inflation expectations drift up further.

The prospects for inflation remain highly uncertain. Domestically, the degree of spare capacity and its dampening impact on inflation will depend on: the strength of demand; the growth of productivity; the performance of the labour market; and the sensitivity of wages to labour market slack. There is also considerable uncertainty about the strength of the forces opposing the impact of spare capacity. The magnitude of both the squeeze on real wages and the overshoot of the inflation target are exceptional, so it is hard to be sure how households and companies will respond. Externally, continued strong global growth may increase the upward pressure on import prices, particularly those of commodities. And plausible alternative paths for domestic utility prices would have significant implications for the inflation outlook.

The range of views among Committee members over the outlook for inflation is wider than usual. In the current uncertain environment, modest differences in judgements regarding the factors above can have a material impact on the outlook. On balance, the Committee's best collective judgement, based on the monetary policy assumptions described above, is that the chances of inflation being either above or below the 2% inflation target in the medium term are roughly equal (**Chart 4**).

## The policy decision

At its May meeting, the Committee judged that the pace of recovery was more likely than not to pick up from its recent soft patch. The near-term outlook for inflation had worsened further, primarily reflecting renewed increases in energy prices. But under the assumption that Bank Rate rose in line with market yields, inflation was still likely to fall back in the medium term, as the temporary impacts of the factors currently raising inflation diminished and some downward pressure from a margin of spare capacity persisted. In the light of that outlook, the Committee judged it appropriate at that meeting to maintain Bank Rate at 0.5% and the stock of purchased assets at £200 billion, in order to meet the 2% CPI inflation target over the medium term.

# 1 Money and asset prices

The MPC maintained Bank Rate at 0.5% and the stock of purchased assets financed by the issuance of central bank reserves at £200 billion. Market participants' expectations for the future path of Bank Rate were a little lower than at the time of the February *Report*. In general, financial markets continued to function normally, despite developments in the Middle East and North Africa and the Japanese earthquake and tsunami. But market concerns about the fiscal positions of some euro-area periphery countries intensified. UK banks' debt issuance was strong in early 2011, but further substantial issuance will be required during the remainder of 2011 and beyond to replace maturing debt. Some indicators pointed to a modest improvement in credit conditions, although conditions remained restrictive for households and some businesses. Bank lending to businesses and households remained weak in 2011 Q1.

Between the February and May *Reports*, interest rate expectations fell back a little (Section 1.1) and there were only modest movements in most financial market prices (Section 1.2). UK banks issued a substantial amount of debt in early 2011 (Section 1.3) and there was some improvement in credit conditions between the February and May *Reports* (Section 1.4). Aggregate broad money growth remained weak compared with pre-crisis rates (Section 1.5).

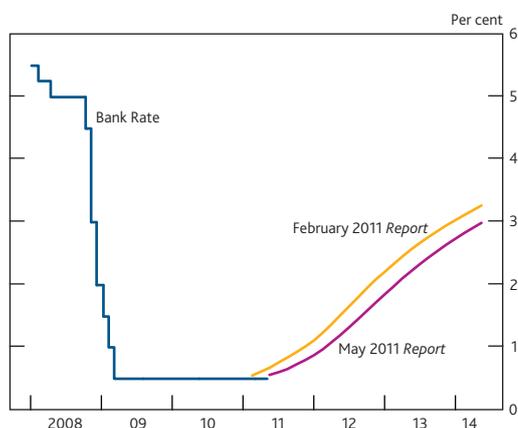
## 1.1 Monetary policy

The MPC maintained Bank Rate at 0.5% and the stock of purchased assets financed by central bank reserves remained at £200 billion. The reasons behind the MPC's decisions in March and April are discussed in the box on page 10.

Market participants' interest rate expectations for the next three years, implied by overnight index swap (OIS) rates, were a little lower in the fifteen working days to 4 May than at the time of the February *Report* (Chart 1.1). On average, market participants expected Bank Rate to increase to around 0.8% in 2011 Q4 and to rise by around a percentage point in each of the following two years. Most respondents to the Reuters survey of economists expected Bank Rate to increase first in 2011 Q3. Since the February *Report*, Reuters have asked respondents when they expect the MPC to begin asset sales. In the latest survey, around two thirds of respondents expected asset sales to begin in either 2012 or 2013.

At its April meeting, the European Central Bank (ECB) Governing Council increased the key ECB interest rates by 0.25 percentage points. In the United States, the Federal Open

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



Sources: Bank of England and Bloomberg.

(a) The February 2011 and May 2011 curves are estimated using OIS rates in the fifteen working days to 9 February 2011 and 4 May 2011 respectively.

## Monetary policy since the February Report

The MPC's central projection in the February 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 resume following the contraction in output at the end of 2010. Under the same assumptions, the MPC judged that inflation was likely to rise further above the 2% target in 2011 before falling back. But the extent and timing of that fall were uncertain.

At the time of the MPC's meeting on 9–10 March, it was too early to assess the extent to which activity had recovered since the slowdown in growth at the end of 2010. Evidence from the latest business surveys pointed to some recovery. By contrast, indicators of consumer spending and sentiment had been much weaker. The available data had remained consistent with buoyant growth in global activity continuing into the first quarter of 2011.

CPI inflation had risen to 4.0% in January. That elevated rate of inflation reflected higher energy and other commodity prices, the increase in the VAT rate and the past depreciation of sterling. A substantial development during the month had been the increase in oil prices, reflecting heightened political tension in the Middle East and North Africa. Unless the increase in the oil price was quickly reversed, inflation was likely to rise further above target in the near term than had been previously expected. Higher oil prices related to supply concerns might also be expected to worsen global growth prospects.

Overall, recent developments had appeared to increase uncertainty over the medium-term outlook for both activity and inflation. Nevertheless, the balance between the downside and upside risks to the medium-term inflation outlook had probably not shifted significantly over the month. On the downside, continued weakness in activity, relative to the supply capacity of the economy, could cause inflation to fall materially below the target in the medium term. On the upside, inflation could remain elevated for longer than the Committee expected if the period of persistently above-target inflation in the near term caused expectations of higher future inflation to become ingrained. Inflation might also remain above the target if externally generated pressures continued or if there were further pass-through from the past depreciation of sterling.

For some members, the upside risks to the medium-term inflation outlook meant that the case for an immediate withdrawal of some of the current monetary stimulus remained compelling. Other members concluded that an

increase in Bank Rate was not yet appropriate. There remained merit in waiting to see how developments in the oil market and household spending evolved before altering the stance of monetary policy. For one member, the balance of risks continued to warrant an expansion of monetary policy, because it was likely that inflation would fall below target in the medium term.

Six members of the Committee voted to maintain Bank Rate at 0.5%. Two members voted for a 25 basis point rise in Bank Rate and one member voted for a 50 basis point increase. 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.

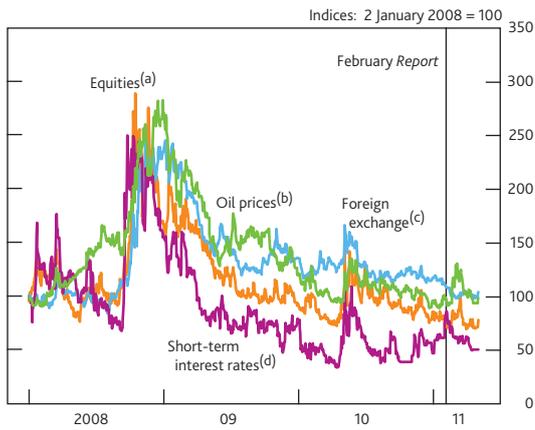
Indicators received over the course of the month leading up to the MPC's meeting on 6–7 April still did not provide clear guidance about the extent to which activity had recovered following the slowdown at the end of 2010. Despite the natural disasters in Japan and continued unrest in the Middle East and North Africa, movements in asset prices had been limited and normal trading conditions had quickly returned in most financial markets.

Although CPI inflation had fallen from 4.4% in February to 4.0% in March, recent movements in the prices of energy, imported commodities and other goods indicated that the most likely near-term path of inflation would be higher than at the time of the February Report. The most recent indicators of inflation expectations had been mixed.

The risks to medium-term inflation in both directions were substantial. The key risk to the downside still surrounded the outlook for private final demand. The key upside risks related to inflation expectations and global price pressures. Overall, the balance of risks had not changed sufficiently over the month for Committee members to change their views of the appropriate stance of policy.

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At its meeting on 4–5 May, the Committee voted to maintain Bank Rate 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.

**Chart 1.2** Indicators of market uncertainty

Sources: Bloomberg, Chicago Mercantile Exchange, NYSE Euronext and Bank calculations.

- (a) Three-month option-implied volatility for FTSE 100.  
 (b) Three-month option-implied volatility for West Texas Intermediate crude oil.  
 (c) Average of three-month option-implied volatilities for sterling-US dollar and sterling-euro exchange rates.  
 (d) Three-month option-implied volatility for three-month Libor, as annual change in basis points.

Market Committee continued with its programme of asset purchases, which was announced in November.

## 1.2 Financial markets

A number of events since the *February Report* might have been expected to affect asset prices and increase financial market uncertainty. Those included heightened political tensions in the Middle East and North Africa and the Japanese earthquake and tsunami on 11 March. Despite those events, financial markets generally continued to operate normally with little sign of excessive volatility. Measures of uncertainty related to oil and equity prices increased somewhat during the second half of February and in March, but they subsequently fell back (**Chart 1.2**). And other measures of uncertainty, such as those for short-term interest rates and foreign exchange, did not rise.

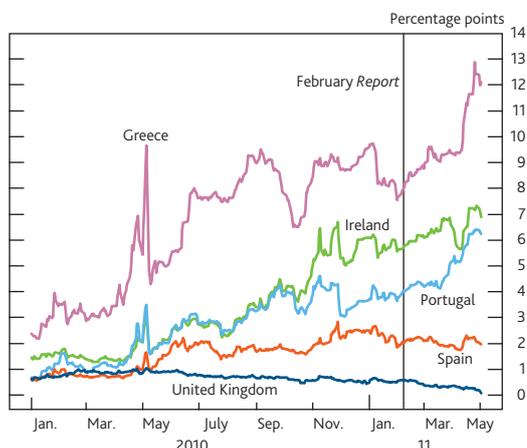
These relatively modest movements in measures of uncertainty contrast with the sharp movements in 2008 and the first half of 2010, relating to the financial crisis and euro-area periphery sovereign debt concerns respectively. The more limited impact of recent events could indicate that market participants perceive them to be less significant for asset prices, but it is also possible that financial markets have become more resilient. The remainder of this subsection discusses developments in a range of asset prices.

### Government bonds

Market concerns about the fiscal positions of some euro-area periphery countries have intensified in recent months. There have been several developments since the *February Report*. In late March, the European Council met to consider a package of measures, including an increase in the effective lending capacity of the temporary European Financial Stability Facility and the establishment of the permanent European Stability Mechanism from 2013, both of which are expected to be finalised by the end of June. The Irish banking sector stress-test results, released at the end of March, suggested that an additional €24 billion of capital would be needed by the Irish banking sector. And in early May, Portugal agreed a €78 billion support package with European authorities and the IMF.

Government bond yields in Greece, Ireland and Portugal have all increased relative to German government bond yields in recent months. Spreads on Spanish government debt — which rose following events in the first half of 2010 — appear to have been less affected by recent events, and in the run-up to the *May Report* were at a similar level to three months earlier (**Chart 1.3**).

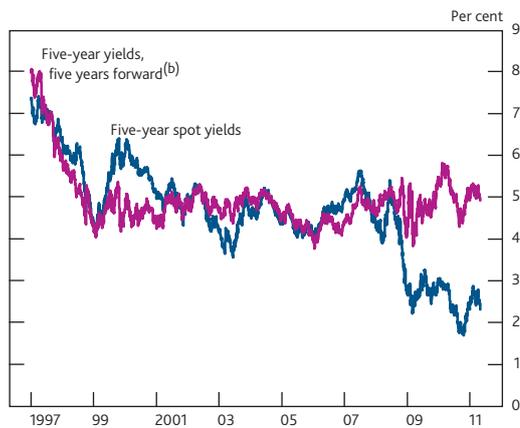
UK ten-year government bond yields were a little lower than at the time of the *February Report* and remained at historically low levels. The low level of bond yields has been driven by

**Chart 1.3** Selected European ten-year spot government bond spreads<sup>(a)</sup>

Sources: Bloomberg and Bank calculations.

- (a) Spread over ten-year German government bond yield.

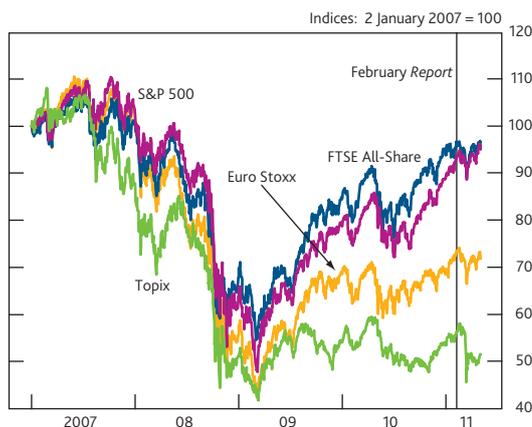
**Chart 1.4** UK five-year nominal spot gilt yields and five-year yields, five years forward<sup>(a)</sup>



Sources: Bloomberg and Bank calculations.

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

**Chart 1.5** International equity prices<sup>(a)</sup>



Source: Thomson Reuters Datastream.

- (a) In local currency terms.

**Chart 1.6** Sterling exchange rates



declines in five-year spot yields since mid-2008 (**Chart 1.4**).<sup>(1)</sup> The spread between UK ten-year government bond yields and German bond yields narrowed (**Chart 1.3**).

### Corporate bonds and equities

Over the period since the *February Report* as a whole, there has been little change in corporate bond and equity prices. Non-financial companies' bond yields fell slightly, although spreads over comparable-maturity government bond yields were broadly flat. The FTSE All-Share index was at a similar level in the fifteen working days to 4 May as in the period leading up to the *February Report*. Equity prices were also broadly unchanged in the euro area, but rose a little in the United States. Japanese equity prices fell by more than 15% after the earthquake and tsunami, but prices subsequently recovered somewhat, and in the fifteen working days to 4 May were 9% lower than three months earlier (**Chart 1.5**).

### Exchange rates

The sterling ERI was around 2% lower than at the time of the *February Report*. That reflected a 4% depreciation against the euro — which is likely to have reflected, in part, market participants' anticipation of the ECB's policy tightening in April — partly offset by an appreciation against the US dollar. In the run-up to the *May Report*, the sterling ERI stood around 25% lower than in mid-2007 (**Chart 1.6**).

In the days following the Japanese earthquake and tsunami on 11 March, the yen appreciated sharply. But on 18 March, G7 Finance Ministers announced co-ordinated intervention in foreign exchange markets, and the yen subsequently depreciated. In the run-up to the *May Report*, the yen ERI was around 3% lower than three months earlier.

## 1.3 The banking sector

The sustainability and strength of the recovery in the UK economy will depend, in part, on developments in the banking sector. In aggregate, UK banks improved their capital ratios during 2010, but banks continue to face challenges, including the need to replace a significant amount of maturing wholesale funding. The Independent Commission on Banking published its interim report on 11 April. The report set out a number of recommendations aimed at: making banks better able to absorb losses; making it easier and less costly to sort out banks that get into trouble; and curbing incentives for excessive risk-taking.<sup>(2)</sup>

### Capital

UK banks have increased their core capital ratios significantly since 2007, despite experiencing losses during the recession. Most increased those ratios during 2010 through both earnings

(1) See the discussion on page 11 of the *February 2011 Report*.

(2) For more information see <http://bankingcommission.independent.gov.uk/bankingcommission/>.

retention and shifting towards less risky assets. But banks, in the United Kingdom and elsewhere, will need to increase capital ratios further, in part in response to regulatory developments.

Banks' willingness to lend will depend, in part, on their assessment of the credit risk associated with lending. And the performance of past loans may affect that assessment. Write-off rates on lending to UK corporates remained elevated at the end of 2010. The rise in the write-off rate during the recession appears large relative to the limited increase in the corporate liquidations rate (**Chart 1.7**). That might indicate that banks have faced a larger proportion of losses from companies that have not entered formal insolvency procedures. It is also possible that banks have faced significant losses from a relatively small number of companies with large amounts of debt.

As discussed in previous *Reports*, developments in the commercial real estate sector continue to pose a risk to banks' balance sheets. Commercial property values remain around 35% below their mid-2007 peak and a significant number of commercial property loans are in breach of loan to value conditions. Market contacts remain concerned that a deterioration in income streams or increases in debt-servicing costs could reduce borrowers' ability to service their debts and could in turn reduce banks' willingness and ability to continue to show forbearance. Banks have, however, made provisions against future losses on commercial property where there is clear evidence to suggest losses will occur, and so any impact on their balance sheets will depend on the extent to which those provisions prove insufficient.

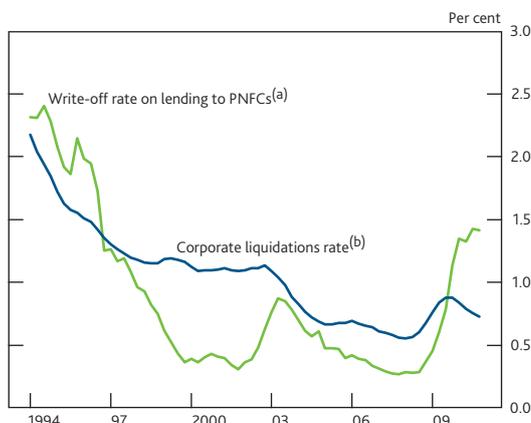
## Funding

During 2010, major UK lenders replaced a substantial amount of maturing wholesale funding by issuing new term debt. Reports from banks' treasurers suggest that the funding requirement in 2011 is larger than in 2010. The banks made good progress in early 2011, issuing around £56 billion of term debt in public markets in the first quarter (**Chart 1.8**), and at least a further £13 billion in April. In addition to funds raised in public markets, contacts reported that private markets continued to be an important source of funding, with at least £20 billion raised from this source in Q1.

Banks' funding costs have drifted up since late 2009. Many lenders report that their marginal funding source is typically long-term wholesale debt since this is the market in which it is possible to raise a large amount of funding over a short period. One proxy for UK banks' marginal long-term funding cost is the sum of three-month Libor and the average of credit default swap (CDS) premia for the major UK lenders (**Chart 1.9**).<sup>(1)</sup>

(1) For more details see 'Understanding the price of new lending to households', *Bank of England Quarterly Bulletin*, Vol. 50, No. 3, pages 172–82.

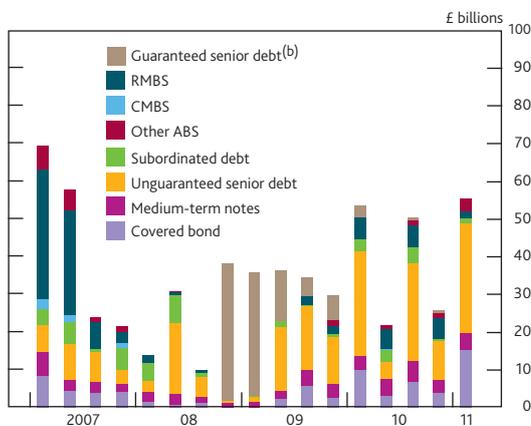
**Chart 1.7** Write-off rate on lending to PNFCs and corporate liquidations rate



Sources: Bank of England, Companies House, The Insolvency Service, ONS and Bank calculations.

- (a) Write-off rate on lending by UK monetary financial institutions to private non-financial corporations (PNFCs). The series has been calculated as annualised quarterly write-offs divided by the corresponding loans outstanding at the end of the previous quarter, and is expressed as a four-quarter moving average. Lending is in both sterling and foreign currency, expressed in sterling terms. Non seasonally adjusted.
- (b) Calculated as the total number of corporate liquidations in the previous four quarters divided by the average number of active registered companies over that period. Since the Enterprise Act in 2002, a number of administrations have subsequently converted to creditors' voluntary liquidations. These are not included in the data. Data relate to England and Wales.

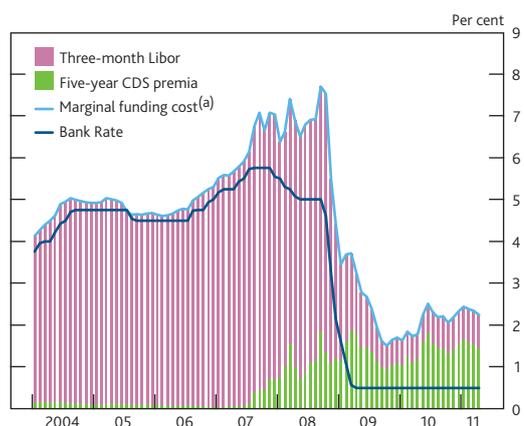
**Chart 1.8** Term issuance by the major UK lenders in public markets<sup>(a)</sup>



Sources: Bank of England, Dealogic and Bank calculations.

- (a) Data are as at end-April 2011. Data are shown at a quarterly frequency, the final observation is 2011 Q1. 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.

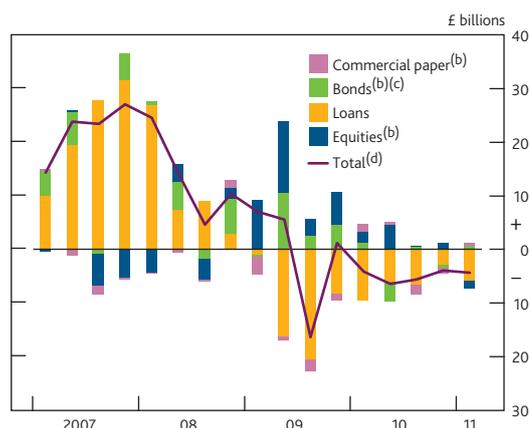
**Chart 1.9** Bank Rate and an estimate of marginal funding cost



Sources: Bank of England, Bloomberg, British Bankers' Association, Markit Group Limited and Bank calculations.

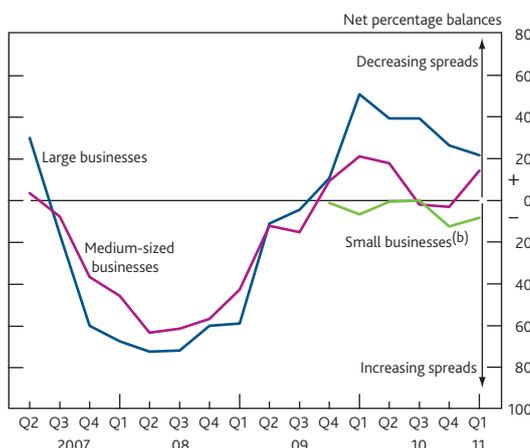
(a) The estimated marginal funding cost of extending variable-rate sterling-denominated loans. This is calculated as the sum of three-month Libor plus a weighted average of the five-year CDS premia of the major UK lenders (Barclays, HSBC, Lloyds Banking Group, Nationwide, Northern Rock, Royal Bank of Scotland and Santander UK). For April 2011 the weights are held fixed at March 2011 values. Marginal funding costs may vary across lenders. Lenders with a greater proportion of retail funding may consider the cost of deposits when setting their marginal funding cost.

**Chart 1.10** PNFs' net external finance raised<sup>(a)</sup>



(a) Includes sterling and foreign currency funds.  
 (b) Non seasonally adjusted.  
 (c) Includes stand-alone and programme bonds.  
 (d) As component series are not all seasonally adjusted, the total may not equal the sum of its components.

**Chart 1.11** Credit Conditions Survey: spreads on corporate lending by company size<sup>(a)</sup>



(a) Weighted responses of lenders. A positive balance indicates that spreads over reference rates have fallen and a negative balance indicates spreads have risen.  
 (b) Data are only available from 2009 Q4.

That measure suggests that before the financial crisis lenders were able to raise new finance at interest rates close to Bank Rate. But since Autumn 2007, the spread over Bank Rate has generally been much higher. And the recent upward drift in funding costs has occurred despite improvements in the capital ratios of UK banks. That upward drift in funding costs will have put upward pressure on rates charged to businesses and households (Section 1.4).

### 1.4 Credit conditions

Some indicators have pointed to a modest easing in credit conditions since the February Report, but conditions remained restrictive for households and some businesses.

#### Corporate sector finances

During and following the recession, businesses undertook a significant amount of financial restructuring. For example, during 2009, companies collectively paid down bank debt significantly faster than they took out new loans, while gross corporate bond issuance was strong, as some companies switched from bank to non-bank debt. In addition, companies collectively issued a significant amount of equity, and reduced share buybacks.

Even including positive net issuance of bonds and equity, overall net external finance raised by private non-financial corporations (PNFCs) has been persistently weak since early 2009 (Chart 1.10). In part, that is likely to have reflected weak demand for finance: companies reduced their capital expenditure very sharply during the recession. But restrictions to the supply of credit are also likely to have played a role, making bank credit unaffordable or unavailable for some companies.<sup>(1)</sup>

More recently, there has been evidence of some improvement in the supply of bank credit. Overall, lenders reported that credit availability to the corporate sector had improved a little in 2011 Q1, the ninth consecutive quarter that an improvement was reported. The spreads charged on loans to medium-sized and large businesses were reported to have fallen in 2011 Q1, although they rose a little on loans to small businesses (Chart 1.11). Consistent with that pattern, reports from the Bank's network of Agents have typically distinguished between gradually improving credit conditions for large businesses but conditions remaining tight for small businesses.<sup>(2)</sup>

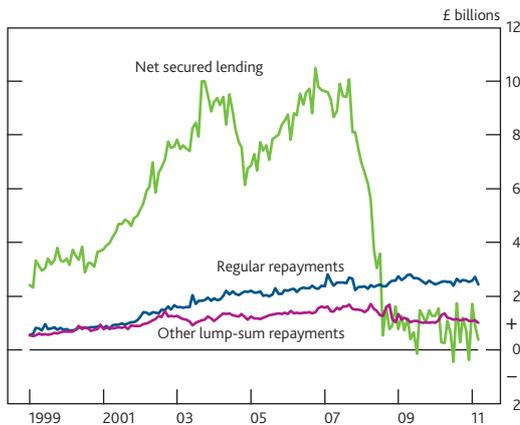
Investment picked up during 2010 (Section 2) and that would typically be associated with increased demand for credit. But to date, net external finance raised has remained negative. That could be because some companies have been able to

(1) For more details see 'Understanding the weakness of bank lending', *Bank of England Quarterly Bulletin*, Vol. 50, No. 4, pages 311–20.  
 (2) Lending to small and medium-sized enterprises is discussed in the box on pages 7–8 of the April 2011 *Trends in Lending*, available at [www.bankofengland.co.uk/publications/other/monetary/TrendsApril11.pdf](http://www.bankofengland.co.uk/publications/other/monetary/TrendsApril11.pdf).

finance investment from internal funds: in aggregate, the corporate sector has been running a substantial financial surplus (Section 2).

Some companies may also be using that financial surplus to repurchase equity: share buybacks increased in 2011 Q1, perhaps indicating that some companies had become more confident about their cash flow. But share buybacks remain below the levels seen in the years immediately preceding the financial crisis.

**Chart 1.12** Net secured lending and regular and other lump-sum repayments of secured lending

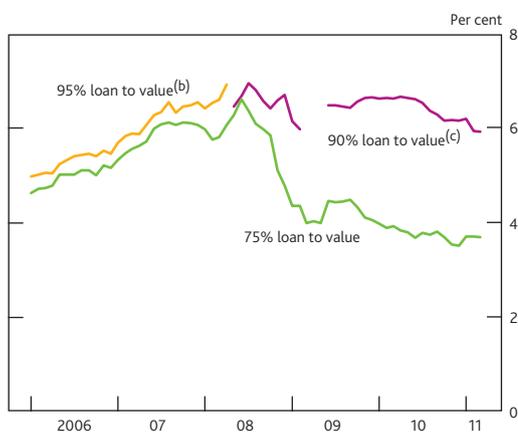


### Household sector finances

Secured lending makes up the vast majority of lending to individuals. Flows of net secured lending have been weak in recent years (Chart 1.12). That reflects a sharp fall in gross new lending for house purchase, which in turn is likely to reflect in part tight credit conditions: for example, first-time buyers have found it difficult to obtain credit. Increased debt repayments by households could also reduce net lending, but regular repayments of secured debt have been little changed since late 2007. And other lump-sum repayments — an indicator of early repayments of secured debt — have actually fallen somewhat (Chart 1.12). Moreover, the major UK lenders reported that they had not observed widespread overpayments of mortgages in 2010.

The outlook for the demand for borrowing depends in part on the interest rates charged by banks. The interest rate that banks charge to new borrowers will be affected by the cost of funding that lending (Section 1.3) and banks' perception of the credit risk attached to making the loan. Prior to the financial crisis, spreads over Bank Rate for quoted fixed-rate mortgage products were small and there was little difference between lending rates according to loan to value (LTV) ratios. But as the crisis unfolded, the quoted rates on mortgage products fell only modestly, despite the large falls in Bank Rate, as banks' funding costs rose relative to Bank Rate (Chart 1.9). And most lenders withdrew very high LTV ratio products. In addition, spreads between different LTV ratio products widened, suggesting that banks came to view the credit risk on those products quite differently.

**Chart 1.13** Two-year fixed quoted mortgage rates<sup>(a)</sup>



- (a) Sterling-only end-month averages. Series are currently compiled using data from up to 23 UK monetary financial institutions, and are non seasonally adjusted.  
 (b) Series finishes in April 2008, as thereafter only two or fewer products have been offered.  
 (c) Series is only available on a consistent basis back to May 2008, and is not published for March-May 2009 as only two or fewer products were offered in that period.

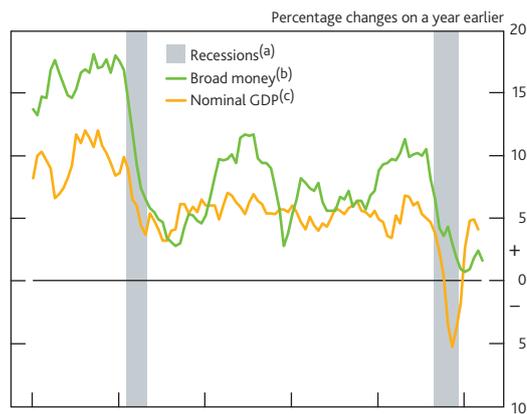
In the early months of 2011, the spread between 90% and 75% LTV ratio products narrowed a little (Chart 1.13). Given that the funding cost of these products is likely to be similar, that small narrowing might reflect a reassessment by banks of the relative credit risks of different types of borrowers, or possibly an increase in competition for mortgage lending at high LTV ratios. In addition, respondents to the *Credit Conditions Survey* suggested that there had been a pickup in the availability of credit to borrowers with LTV ratios over 75% in 2011 Q1, with availability expected to improve further in 2011 Q2. But the spread between 75% mortgage products and those with higher LTV ratios remains significantly greater than before the crisis.

**Table 1.A** Housing market indicators

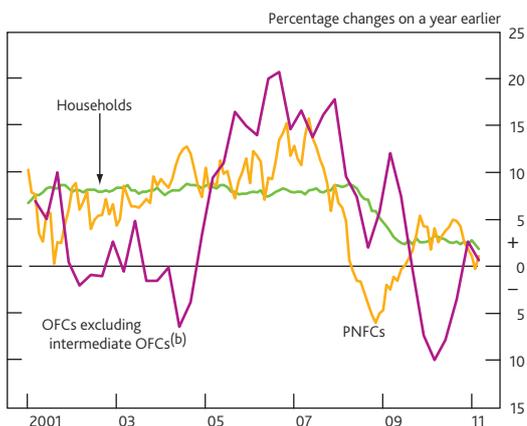
	Averages since 2000 <sup>(a)(b)</sup>	2010 <sup>(a)</sup>	2011			
			Jan.	Feb.	Mar.	Apr.
<b>Activity<sup>(c)</sup></b>						
Property transactions (000s) <sup>(d)</sup>	100	74	68	71	68	n.a.
Mortgage approvals (000s) <sup>(e)</sup>	90	48	46	47	48	n.a.
RICS new buyer enquiries <sup>(f)</sup>	-3	-6	-7	-1	-6	n.a.
RICS new instructions <sup>(f)</sup>	3	12	-3	5	4	n.a.
<b>Prices<sup>(g)</sup></b>						
Halifax <sup>(h)</sup>	0.5	-0.3	0.8	-0.9	0.0	-1.4
Nationwide	0.6	0.0	-0.1	0.4	0.5	-0.2
Communities and Local Government	0.5	0.3	-1.4	0.3	n.a.	n.a.
Land Registry <sup>(i)</sup>	0.5	0.1	0.4	-0.5	-1.1	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, and Department for Communities and Local Government house prices, which is an average since March 2002.  
 (c) All series are net percentage balances unless otherwise stated.  
 (d) Number of residential property transactions with value £40,000 or above.  
 (e) Loan approvals for house purchase.  
 (f) Compared with the previous month.  
 (g) Growth on a month earlier.  
 (h) The published Halifax index has been adjusted in 2002 by Bank staff to account for a change in the method of calculation.  
 (i) Data relate to England and Wales only.

**Chart 1.14** Broad money and nominal GDP

- (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) The series is constructed using headline M4 growth prior to 1998 Q4, and M4 growth excluding intermediate 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 Q1.  
 (c) At current market prices. The latest observation is 2010 Q4.

**Chart 1.15** Sectoral broad money<sup>(a)</sup>

- (a) Monthly data, unless otherwise specified.  
 (b) Based on quarterly data. Intermediate OFCs are defined as in Chart 1.14.

The tightening in credit conditions in recent years has contributed to weakness in the housing market. Indicators of housing market activity, such as housing transactions and mortgage approvals, remained well below their post-2000 average levels at the beginning of 2011 (Table 1.A). RICS data suggest that new buyer enquiries continued to fall in 2011 Q1, while new instructions to sell picked up a little. Indicators of house prices were mixed in early 2011 (Table 1.A).

## 1.5 Money

Broad money growth remained well below pre-crisis norms and significantly weaker than nominal GDP growth (Chart 1.14). Four-quarter growth in broad money, as measured by M4, excluding the holdings of interbank intermediaries, fell to 1.7% in 2011 Q1. Some of the weakness in money growth relative to the growth of nominal spending could reflect banks continuing to increase their capital and companies becoming less reliant on bank credit. These factors are likely to persist in the near term, suggesting that a given rate of growth in nominal spending is likely to be associated with weaker growth in broad money than was typically the case before the crisis.<sup>(1)</sup>

Twelve-month growth in households' broad money weakened to 2.0% in March, significantly below the growth rates seen in the years preceding the financial crisis. PNFCs' money holdings picked up somewhat during 2009, but more recently growth has fallen back (Chart 1.15), and in the twelve months to March 2011, money holdings of PNFCs increased by only 1.2%.

(1) For more details see 'Understanding the recent weakness in broad money growth', *Bank of England Quarterly Bulletin*, Vol. 51, No. 1, pages 22–35.

## 2 Demand

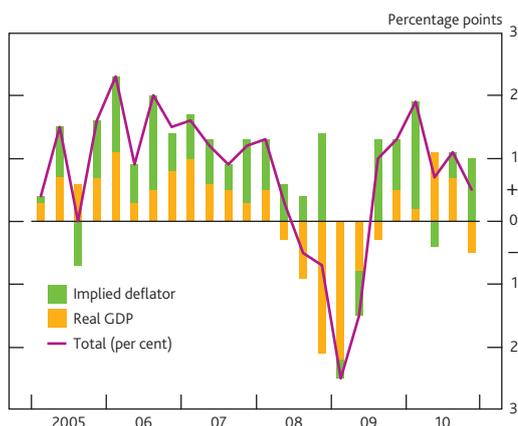
After rising over the first three quarters of 2010, GDP was flat on average around the turn of the year. Consumer spending stagnated over 2010 and the near-term outlook for consumption is subdued. Business spending on stockbuilding and investment together rose strongly in the four quarters to 2010 Q4. Although the contribution of stockbuilding has started to wane, indicators point towards a continued rise in business investment. Exports grew robustly over 2010 but so did imports and net trade reduced growth over 2010. The recovery in global demand continued, but the possibility of dislocation in some periphery euro-area countries continues to pose a risk to UK activity.

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

	Averages 1997–2009	2010			
		Q1	Q2	Q3	Q4
Household consumption <sup>(b)</sup>	0.6	-0.2	0.5	-0.1	-0.3
Government consumption	0.5	0.5	0.2	-0.5	0.4
Investment	0.6	3.9	0.1	3.6	-1.8
of which, business investment	0.6	7.7	0.2	4.0	0.0
of which, dwellings investment <sup>(c)</sup>	-0.1	1.3	7.4	4.3	-3.7
<b>Final domestic demand</b>	<b>0.6</b>	<b>0.5</b>	<b>0.4</b>	<b>0.3</b>	<b>-0.4</b>
Change in inventories <sup>(d)(e)</sup>	0.0	0.2	0.7	0.5	0.2
Alignment adjustment <sup>(e)</sup>	0.0	0.3	-0.2	0.1	0.3
<b>Domestic demand</b>	<b>0.6</b>	<b>1.0</b>	<b>0.9</b>	<b>0.8</b>	<b>0.0</b>
'Economic' exports <sup>(f)</sup>	0.8	-1.0	3.0	1.7	1.7
'Economic' imports <sup>(f)</sup>	1.1	1.9	2.1	1.9	3.1
<b>Net trade<sup>(e)(f)</sup></b>	<b>-0.1</b>	<b>-0.8</b>	<b>0.2</b>	<b>-0.1</b>	<b>-0.5</b>
of which, goods <sup>(e)(f)</sup>	-0.1	-0.5	0.5	-0.4	-0.4
of which, services <sup>(e)</sup>	0.0	-0.3	-0.4	0.3	-0.1
<b>Real GDP at market prices</b>	<b>0.5</b>	<b>0.2</b>	<b>1.1</b>	<b>0.7</b>	<b>-0.5</b>

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

**Chart 2.1** Contributions to quarterly growth in nominal GDP<sup>(a)</sup>



(a) At market prices. Contributions may not sum to total due to rounding.

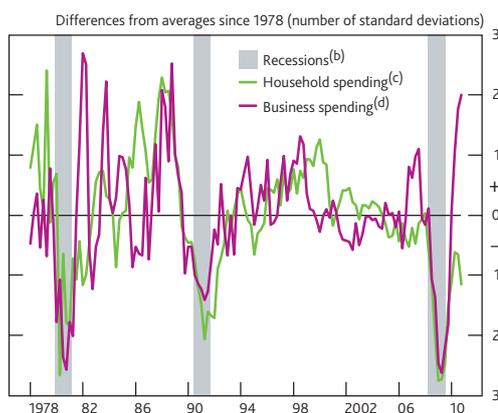
In 2010 Q4, GDP fell by 0.5% (**Table 2.A**) although output was disrupted by the impact of heavy snow (Section 3). Provisional data from the ONS indicate that output rose by 0.5% in 2011 Q1, but excluding the boost from the unwinding of snow effects, output remained flat. Over the four quarters to 2010 Q4, consumer spending fell by 0.1% but business spending on investment and stockbuilding together increased by around a third. With a major fiscal consolidation now under way (Section 2.2), growth will depend heavily upon the path of private sector domestic demand (Section 2.1). Developments in the world economy will also play a significant role in determining the path of the UK recovery (Section 2.3). Exports and imports both grew strongly in 2010 (Section 2.4).

### Nominal demand

Nominal GDP growth was 0.5% in 2010 Q4, despite the fall in real activity (**Chart 2.1**). The pattern of relatively weak real activity but marked increases in prices is similar to that seen around the end of 2009.

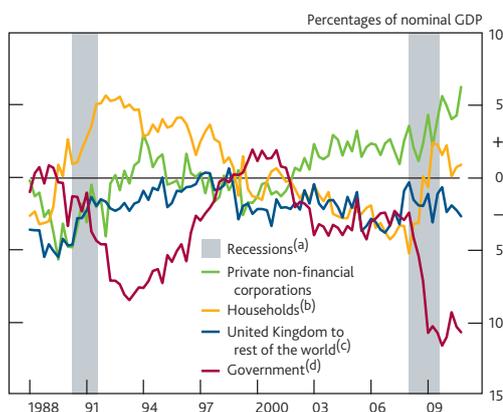
Nominal GDP growth is likely to be strong in Q1 reflecting real GDP growth of 0.5% and marked rises in prices following January's VAT increase (Section 4). But the evolution of nominal spending over the remainder of 2011 is uncertain. The path of nominal spending since mid-2009 may provide a positive signal about households' and businesses' willingness to spend. In that case, steady nominal spending growth could continue. But, if private demand is relatively unresponsive to price changes in the short term, nominal spending outturns might have been a mechanical consequence of tax changes and other factors that have raised inflation.<sup>(1)</sup> In that case, the quarterly rate of growth of nominal spending could fall back as these price effects wane.

(1) These factors are discussed in more detail in the box on page 19 of the November 2010 Report.

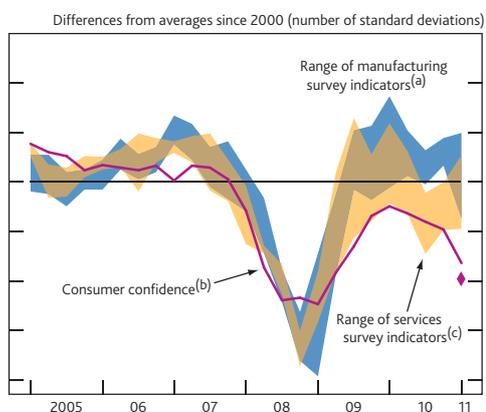
**Chart 2.2 Household and business spending<sup>(a)</sup>**

Sources: ONS and Bank calculations.

- (a) Chained-volume measures. Four-quarter growth rates.  
 (b) Recessions are defined as at least two consecutive quarters of falling output (at constant market prices). The recessions are assumed to end once output began to rise.  
 (c) Includes non-profit institutions serving households.  
 (d) Business investment and change in inventories excluding the alignment adjustment.

**Chart 2.3 Financial balances by sector**

- (a) Recessions are defined as in Chart 2.2.  
 (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 balance of payments.  
 (d) Excludes public corporations.

**Chart 2.4 Business and consumer confidence**

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

- (a) Includes indicators of business confidence from the BCC (turnover and profits) and CBI business optimism. The BCC data are non seasonally adjusted.  
 (b) 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. The diamond shows April 2011 data.  
 (c) Includes indicators of business confidence from the BCC (turnover and profits), CBI business optimism and CIPS/Markit business expectations. The CBI measure weights together financial services and business/consumer services surveys using shares in nominal value added. The BCC data are non seasonally adjusted.

## 2.1 Private sector domestic demand

During the recession real spending by both households and companies fell sharply (Chart 2.2). But the recovery in activity over 2010 was driven by business rather than household spending; while business investment and stockbuilding together contributed 2.5 percentage points to GDP growth over the four quarters to Q4, consumer spending reduced it by 0.1 percentage points. Although investment and stockbuilding are typically more cyclical than consumer spending, the experience in 2010 was unusual, particularly for business investment relative to consumer spending.

This pattern may, in part, have reflected significantly stronger corporate income growth than household income growth. Households' real incomes have been eroded by higher import and energy prices. But some companies' profits have probably been boosted by export strength over 2010: export prices have remained high, and export volumes have been increasing. That has been one factor behind the private non-financial corporation sector financial surplus continuing to rise over 2010 even as investment picked up (Chart 2.3). In contrast, the household financial balance declined over 2010.

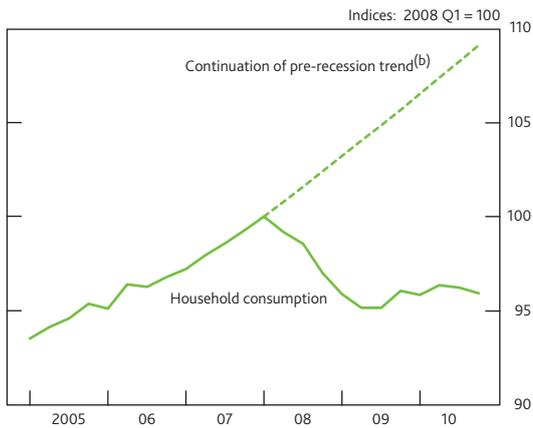
Survey measures of confidence also indicate greater optimism among companies than households (Chart 2.4). This is particularly true for the manufacturing sector. Service sector confidence has followed consumer confidence more closely, at least until recently.

### Household spending

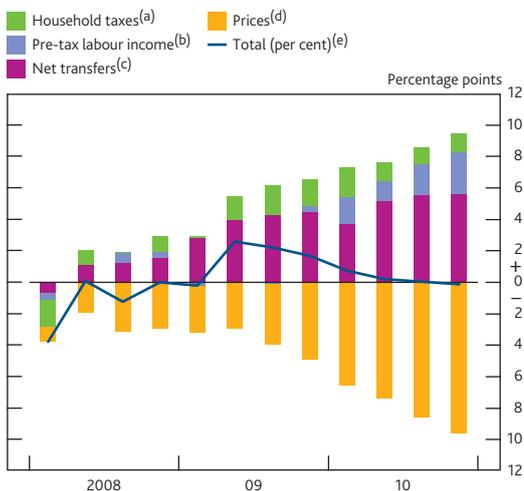
Consumer spending fell by 0.3% in Q4, in part reflecting weakness in consumer services, which is likely to be related to heavy snow in December. After being broadly flat in the four quarters to 2010 Q4, consumption remained around 4% below its pre-recession level and much further below a continuation of its pre-recession trend (Chart 2.5). Indicators of consumer spending remained subdued in Q1. Retail sales volumes grew by only 0.3% and private new car registrations fell.

Households have faced a pronounced squeeze on their real incomes in recent years. Nominal labour income growth has been weak as employment fell (Section 3) and wage growth weakened (Section 4). Meanwhile, increasing import prices and commodity prices and, from January 2011, higher VAT have added to the squeeze on real incomes. Overall, real post-tax labour income fell by 1.3% over 2010, taking it back to its 2007 Q4 level (Chart 2.6).

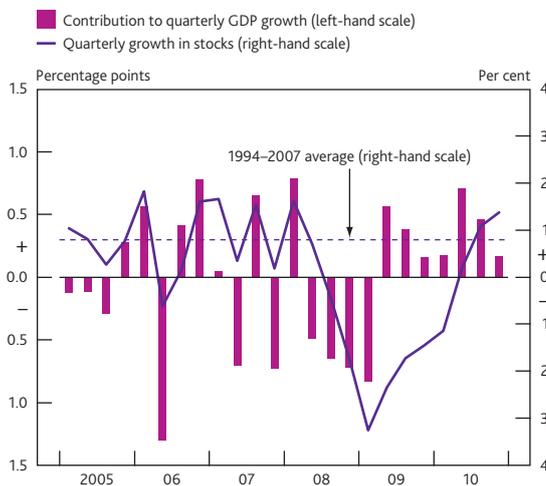
As well as adjusting to weak current income, households will also need to adjust to the impact that the recession has had on their future earnings prospects. The MPC believes that there has been a persistent reduction in underlying productivity (Section 5). That is likely to result in lower wages than would otherwise have been the case.

**Chart 2.5 Household consumption<sup>(a)</sup>**

(a) Chained-volume measure. Includes non-profit institutions serving households.  
 (b) Pre-recession trend calculated by projecting forward household consumption from 2008 Q2 using the average quarterly growth rate between 1998 Q2 and 2008 Q1.

**Chart 2.6 Contributions to growth in real post-tax labour income since 2007 Q4**

(a) Household taxes include income tax and Council Tax.  
 (b) Wages and salaries plus mixed income.  
 (c) General government benefits minus employees' National Insurance contributions.  
 (d) Calculated as a residual.  
 (e) Nominal post-tax labour income divided by the consumer expenditure deflator (including non-profit institutions serving households).

**Chart 2.7 Stockbuilding<sup>(a)</sup>**

(a) Chained-volume measures. Excluding the alignment adjustment.

A key question is the extent to which the necessary adjustment of consumption to a lower expected path of income is so far complete. The more that consumption has adjusted to weaker real incomes already, then the smaller the adjustment that is still to come, and therefore the sooner some recovery in consumption could begin.

It is difficult to judge how much of the adjustment has happened because, as discussed in previous *Reports*, it is likely that other factors have also been pulling down spending. Households may have postponed spending as uncertainty rose during the recession, or if they were unsure about the impact of the prospective fiscal consolidation on their own incomes. The experience of the financial crisis and recession may have also led households to increase desired levels of saving for precautionary motives or to reduce debt levels, as they became aware that the degree of economic stability previously experienced was unusual. Acting against that, the low level of both short-term and long-term real interest rates, driven in part by monetary policy, continues to provide support to consumption. The more that such factors, when taken together, are currently dragging down consumption, then the greater the adjustment of consumption to current and future income weakness that is still to come. But the outlook for consumption will also depend on how quickly the drag from those other factors dissipates.

The GfK measure of consumer confidence fell further in April (**Chart 2.4**), consistent with continued weak consumption in Q2. The outlook for consumer spending further ahead is discussed in more detail in Section 5.

### Companies' spending

Companies' spending on stockbuilding and investment together rose strongly over the four quarters to 2010 Q4 (**Chart 2.2**). In large part, that reflected businesses rebuilding stock levels following sharp cuts over the recession. But the contribution of inventories to GDP began to fall back over 2010 H2 (**Chart 2.7**), and its impact may wane further in coming quarters.

Business investment rose by 12% over the four quarters to 2010 Q4, although that in part reflected some bringing forward of aircraft purchases ahead of changes to their VAT treatment in January 2011. Some of the recovery over 2010 probably reflected companies restarting investment projects put on hold during the recession. The demand outlook will be a key determinant of the extent to which investment continues to recover from its current low level (**Chart 2.8**). But investment will also depend on companies' internal and external resources as well as their desire to invest.

Uncertainty regarding the global outlook or the impact of the fiscal consolidation could adversely affect investment: survey evidence from the CBI suggests that, in aggregate, the drag on

**Chart 2.8 Business investment<sup>(a)</sup>**

(a) Chained-volume measure.  
 (b) Recessions are defined as in Chart 2.2.

**Chart 2.9 Capital expenditure by company size<sup>(a)</sup>**

Sources: ONS and Bank calculations.

(a) These data are from the ONS Quarterly Capital Expenditure Inquiry, and account for around two thirds of total business investment. The data are for the private sector, at current prices, and are non seasonally adjusted. Figures in parentheses are shares of capital expenditure in 2010 and do not sum to 100% due to rounding.

**Table 2.B Surveys of investment intentions (plant and machinery) and investment**

	Averages 1999–2008	Averages		2011		
		2009	2010	H1	H2	Q1
<b>Manufacturing</b>						
BCC <sup>(a)(b)</sup>	10	-34	-10	1	17	6
CBI <sup>(c)</sup>	-17	-40	0	2	10	7
ONS <sup>(d)</sup>	-0.8	-11.3	-7.5	5.9	2.3	n.a.
<b>Services</b>						
BCC <sup>(a)</sup>	14	-20	-6	-2	-3	3
CBI <sup>(c)</sup>	-8	-46	-22	-14	-1	5
ONS <sup>(d)</sup>	1.1	-11.0	-4.8	5.8	2.1	n.a.

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

(a) Net percentage balance of companies that say they have increased planned investment in plant and machinery over the past three months. Data are non seasonally adjusted.  
 (b) Non-services measure.  
 (c) Net percentage balance of companies that say they have revised up planned investment in plant and machinery over the next twelve months. Service sector data cover financial, retail and consumer/business sectors weighted together using shares in real business investment.  
 (d) Growth on a quarter earlier. Chained-volume measures.

investment from demand uncertainty remained above pre-recession levels in Q1.

But, to the extent that companies do want to invest, ample internal resources should facilitate some increase. Companies have faced higher costs, but for exporters this is likely to have been offset by the boost to revenues from the past depreciation of sterling. And although profits remain lower as a share of GDP than immediately prior to the recession, lower spending on investment, dividends and interest payments as a share of GDP has led to a larger-than-usual financial surplus (Chart 2.3). It is possible that this reflects companies' desire to increase their cash holdings for precautionary reasons. But this could also be used to fund future investment.

Companies' ability to fund investment externally has also improved somewhat over 2010, especially for larger businesses (Section 1), which have experienced the most marked recovery in investment (Chart 2.9).

Business investment growth is likely to fall back somewhat in the near term as unusually high spending on aircraft unwinds. But surveys of investment intentions are broadly consistent with further underlying growth in early 2011 (Table 2.B).

## 2.2 Government spending and fiscal policy

The MPC's forecast is conditioned on the fiscal plans set out in the March *Budget* and supplemented by the assumed composition of government spending underlying the Office for Budget Responsibility's (OBR's) associated *Economic and Fiscal Outlook*. The tax and spending plans set out in the March *Budget* were little changed relative to the plans for fiscal consolidation set out in the June 2010 *Budget* and the October 2010 *Spending Review*.

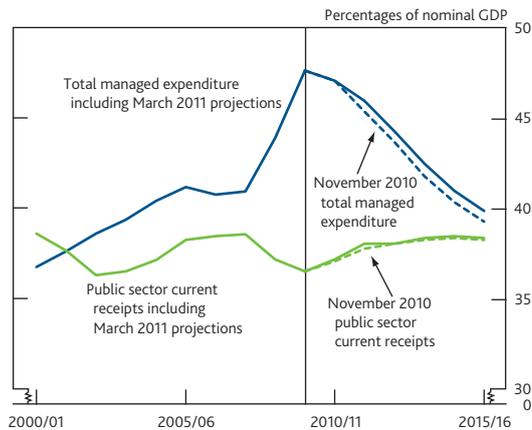
The OBR's central forecast is for a large decline in the public sector deficit, with the majority of the consolidation being achieved through public sector expenditure growing at a more modest pace than nominal GDP (Chart 2.10). Stripping out interest payments and controlling for the position in the economic cycle, a similar proportion of the consolidation is planned to occur in 2011/12 to that already observed in 2010/11.<sup>(1)</sup>

## 2.3 External demand

The IMF estimates that world GDP grew by 5% in 2010 — above its 1998–2007 average rate — with a marked expansion in emerging economies and a recovery in several advanced economies including Germany and the United States (Chart 2.11). Nonetheless, there remain risks to the outlook,

(1) The pace and composition of the fiscal consolidation are discussed in more detail on page 19 of the February 2011 *Report*.

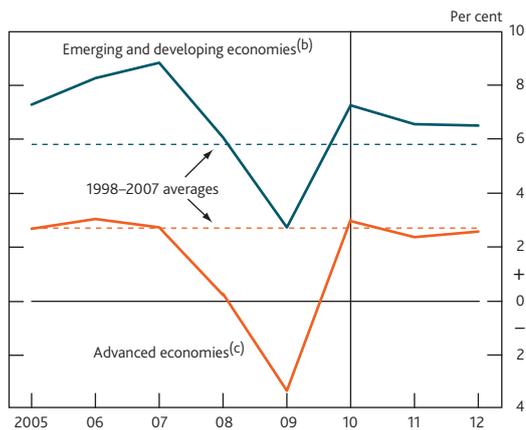
**Chart 2.10** Total managed expenditure and public sector current receipts<sup>(a)</sup>



Sources: Office for Budget Responsibility (OBR), ONS and Bank calculations.

(a) Measures exclude the temporary effects of financial interventions. ONS data prior to 2010/11. Observations to the right of the vertical line (2010/11 onwards) are projections from the OBR's November 2010 and March 2011 *Economic and Fiscal Outlooks*.

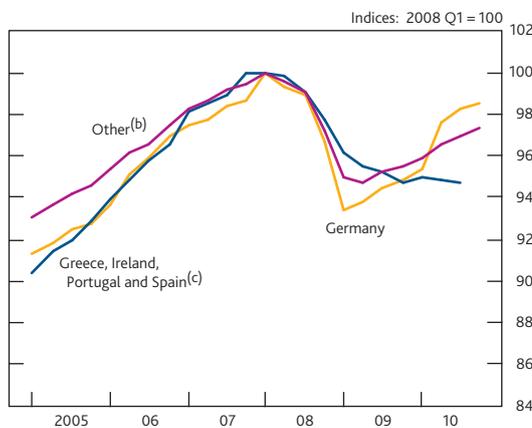
**Chart 2.11** IMF estimates and projections for calendar-year GDP growth<sup>(a)</sup>



Source: IMF *World Economic Outlook*, April 2011.

(a) At constant prices. Observations to the right of the vertical line are projections.  
(b) Composed of 150 countries.  
(c) Composed of 34 countries.

**Chart 2.12** Euro-area GDP<sup>(a)</sup>



Sources: Eurostat and Bank calculations.

(a) Chained-volume measures.  
(b) Austria, Belgium, Cyprus, Finland, France, Italy, Luxembourg, Malta, Netherlands, Slovakia and Slovenia.  
(c) Data to 2010 Q3 as seasonally adjusted data for Greek GDP in 2010 Q4 have yet to be released.

including from continued sovereign debt worries in the euro area (Section 1).

On 11 March, north-east Japan was hit by an earthquake and tsunami. These events led to a substantial destruction of capacity, with power supply disruption also impairing production more widely in Japan. Household and business confidence fell sharply. The Bank of Japan has revised its median forecasts for financial-year GDP growth down by 1 percentage point in 2011/12 and up by 0.9 percentage points in 2012/13, with reconstruction spending providing some boost to GDP. The direct trade impact on the United Kingdom is likely to be small, with Japan accounting for only around 2% of UK exports of goods and services. But there is potential for some disruption to UK supply chains (see the box on pages 24–25).

## Emerging economies

Emerging economies experienced stronger growth over 2010 than had been expected by the IMF at the start of the year.<sup>(1)</sup> In recent months several emerging economies have tightened monetary policy. That may slow growth — for example, Chinese purchasing managers' indices have recently fallen back. But IMF projections for emerging economy growth as a whole over 2011 remain robust (Chart 2.11).

## The euro area

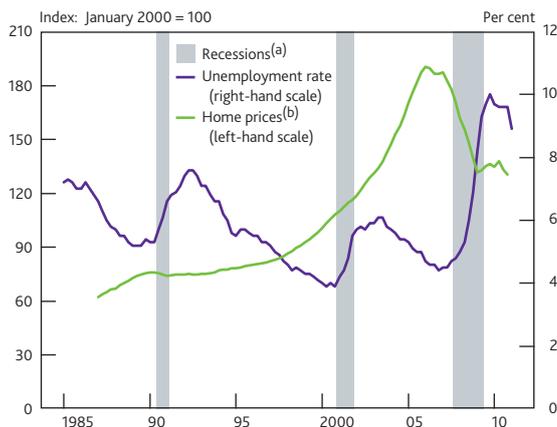
Overall euro-area GDP rose by 0.3% in 2010 Q4, driven in part by a strong contribution from net trade. But the experience of different countries continued to vary markedly (Chart 2.12). German output grew by 4% in the year to 2010 Q4, despite weather-related disruption to the construction sector in Q4, leaving it only 1.4% below its pre-recession peak. But output in the euro-area periphery remained weak over 2010.

Periphery euro-area countries continue to face substantial challenges in improving their competitiveness and fiscal positions, and supporting their banking systems. And although the European authorities and the IMF have continued to provide support, yields on periphery economies' sovereign debt remain elevated (Section 1). To date there is limited sign of a drag on activity in the rest of the euro area: for example, aggregate purchasing managers' indices rose in Q1. But a further material deterioration in the periphery countries continues to pose a risk to UK activity through financial market and banking sector linkages and its possible effects on broader euro-area confidence.

## The United States

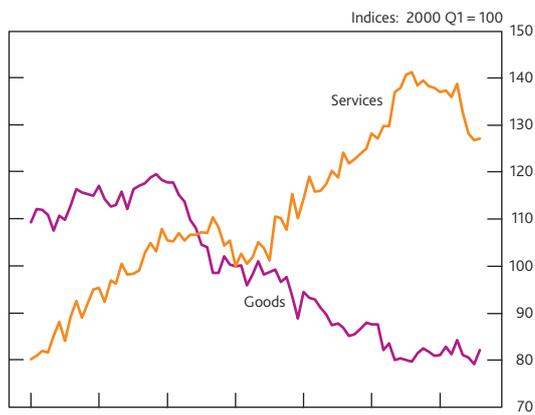
US GDP increased by 2.8% in the four quarters to 2010 Q4, driven by domestic demand. In 2011 Q1, GDP increased by only 0.4%, however. Conditions in the labour market have

(1) For a discussion on the impact of stronger global growth on commodities see the box on pages 34–35.

**Chart 2.13** US unemployment rate and home prices

Sources: Bureau of Labor Statistics, National Bureau of Economic Research (NBER), Standard & Poor's/Case-Shiller and Thomson Reuters Datastream.

(a) Recession bars use NBER dating methodology.  
(b) The latest observation is 2010 Q4.

**Chart 2.14** Ratios of UK exports to UK-weighted rest of G7 imports<sup>(a)</sup>

Sources: ONS, Thomson Reuters Datastream and Bank calculations.

(a) Chained-volume measures excluding the estimated impact of MTIC fraud. UK goods (services) exports divided by imports of goods (services) in Canada, France, Germany, Italy, Japan and the United States, weighted using UK 2009 goods (services) export shares from the 2010 *Pink Book*.

**Table 2.C** UK trade in goods<sup>(a)</sup>

	Averages					2011
	1998–2007	2008	2009	2010 H1	2010 H2	Q1
<b>Exports</b>						
BCC deliveries <sup>(b)</sup>	7	9	-6	26	31	30
CBI deliveries <sup>(c)</sup>	-11	-12	-18	20	9	17
Agents' scores <sup>(d)</sup>	0.8	1.9	-1.1	1.5	3.0	3.5
CIPS/Markit orders <sup>(e)</sup>	50.3	45.5	47.4	56.9	53.9	58.4
ONS <sup>(f)</sup>	0.6	-0.9	-0.7	3.0	2.1	5.6 <sup>(g)</sup>
<b>Imports</b>						
ONS <sup>(f)</sup>	1.4	-2.4	-0.6	2.1	3.3	-2.0 <sup>(g)</sup>
of which, aircraft contribution	0.0	0.1	-0.1	-0.1	0.9	-3.0 <sup>(g)</sup>

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

(a) Dates refer to the period in which the survey was conducted.  
(b) Percentage balance of respondents reporting export deliveries to be 'up' relative to 'down' over the past three months. Data are non seasonally adjusted.  
(c) Percentage balance of respondents reporting volumes of export deliveries to be 'up' relative to 'down' over the past three months.  
(d) Volume of sales over the past three months compared with the same period a year ago. End-quarter observation. The scores are on a scale of -5 to +5, with positive scores indicating higher sales.  
(e) A reading above 50 indicates increasing orders this month relative to the situation one month ago. Quarterly data are averages of monthly indices.  
(f) Growth on a quarter earlier. Chained-volume measures, excluding the estimated impact of MTIC fraud.  
(g) Estimated using average monthly trade in goods data for January and February 2011 compared to Q4 monthly averages.

gradually improved with the unemployment rate falling back from its 2009 high (Chart 2.13). But the US housing market remained weak.

## 2.4 Exports and imports

### UK exports

UK exports increased by 5.4% over the four quarters to 2010 Q4. That is likely to have reflected, in part, the improvement in demand conditions abroad. But it may also reflect the impact of sterling's depreciation and the resulting improvement in UK exporters' competitiveness. Estimates of UK export shares continued to suggest that the fall in sterling has supported goods exports relative to the previous declining trend in their share of world trade (Chart 2.14). In contrast, the service sector's export share has been falling, in part reflecting weakness in exports of financial services, although it stabilised towards the end of 2010.

Survey data were consistent with strong export growth in both goods and services in Q1; and the ONS reported that goods export volumes rose strongly over the first two months of 2011 (Table 2.C).

### UK imports

By raising the price of imports relative to the price of domestically produced goods and services, the depreciation of sterling should also encourage households and companies to switch expenditure towards the latter. But, over the year to 2010 Q4, import growth remained strong at 9.4%. That strength reflects, in large part, the recovery in demand, especially given the high import intensity of inventories. And part of the strength can also be attributed to higher aircraft imports prior to the change in their VAT treatment from January 2011 (Table 2.C).

Monthly ONS data to February indicate that goods import volumes probably fell sharply in Q1 (Table 2.C). Import growth was weak even accounting for the reversal of erratic aircraft imports. But it is difficult to know what signal to take from that weakness, which may in part reflect subdued domestic demand.

There are few clear signs of expenditure switching in disaggregated import data, although imports of travel services have fallen back as UK residents cut back on tourist spending overseas. Continued strong imports of other goods and services may reflect a lack of domestic capacity to produce them; a survey carried out by the Bank's Agents suggested that importers were often unable to find competitively priced domestic alternatives.<sup>(1)</sup> Section 5 discusses the outlook for both import and export growth.

(1) For more detail see the box on page 5 of the Bank's April 2011 *Agents' summary of business conditions*, available at [www.bankofengland.co.uk/publications/agentssummary/agsum11apr.pdf](http://www.bankofengland.co.uk/publications/agentssummary/agsum11apr.pdf).

# 3 Output and supply

Output was estimated to have risen by 0.5% in Q1. Excluding the boost to growth from the rebound in activity following the heavy snow in 2010 Q4, however, GDP was broadly flat. Within that, and abstracting from the effects of snow, manufacturing and services output grew moderately, but there was a sharp fall in construction output. The extent of spare capacity within businesses is uncertain: the growth rate of companies' effective supply capacity appears to have slowed during the recession, but it is likely that some margin of spare capacity remains. Employment has recovered somewhat but unemployment remains elevated.

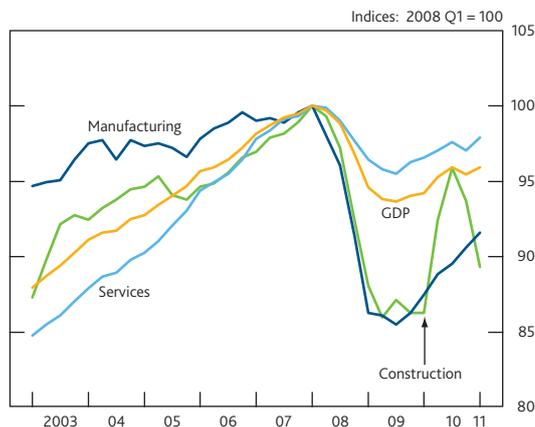
Output rose by 0.5% in 2011 Q1. Growth is likely to have been boosted by the rebound in activity following the snow in Q4, but was significantly depressed by a sharp decline in construction output. Weighted together, and excluding the effect of the snow, services and manufacturing output increased at a modest rate (Section 3.1). During the recession, output fell by more than employment, so that labour productivity declined. As output has recovered, the number of people employed and the total hours worked by them have also risen (Section 3.3), with the result that hourly productivity growth has been weak. These developments mean that productivity remains well below the level implied by a continuation of a pre-recession trend, but the extent to which that weakness reflects a persistent fall in companies' supply capacity is unclear. Nonetheless, there is probably some spare capacity within businesses (Section 3.2). And considerable labour market slack remains.

## 3.1 Output

GDP was provisionally estimated by the ONS to have risen by 0.5% in 2011 Q1 (Chart 3.1). But excluding the boost to growth from the rebound in activity following the heavy snow in Q4, output was broadly flat. That weakness in GDP was in large part accounted for by a sharp fall in construction output (Chart 3.1). Official construction output data have been very volatile over recent quarters compared with other indicators of construction activity. Excluding construction, output in the rest of the economy grew moderately in Q1: abstracting from the effects of the snow, output in manufacturing and services grew by about 0.5%. The box on pages 24–25 discusses the impact of recent factors temporarily affecting GDP growth in more detail.

As noted in that box, GDP growth during 2011 is likely to continue to be temporarily affected by special factors; in particular, the additional bank holiday associated with the

Chart 3.1 GDP and sectoral output<sup>(a)</sup>



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

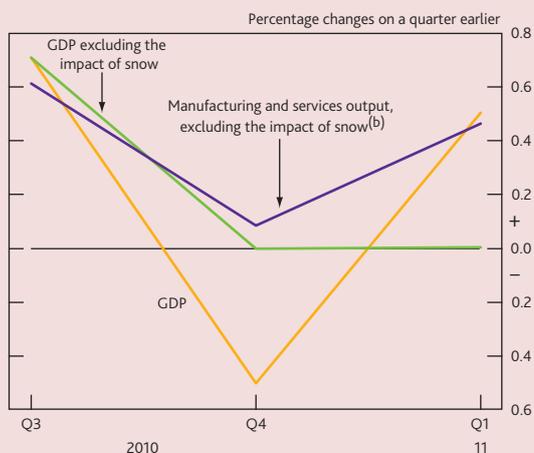
## The impact of special factors on the path of GDP growth

In recent quarters, GDP has been affected by a number of significant factors whose effects are not expected to persist. In particular, the impact of heavy snow and sharp changes in activity in some sectors affected GDP growth in 2010 Q4 and 2011 Q1. And growth during 2011 is likely to continue to be temporarily affected by factors, such as the additional bank holiday for the royal wedding, and supply chain disruptions following the Japanese earthquake and tsunami. This box discusses the impact of these special factors and concludes with an assessment of developments in underlying activity.

### The impact of snow

GDP fell by 0.5% in 2010 Q4, but, as discussed in the February *Report*, output is likely to have been temporarily depressed by the effect of heavy snowfall. The ONS estimated that weather-related disruption, in the services and construction sectors in particular, reduced Q4 GDP growth by 0.5 percentage points, so that underlying output was broadly flat (Chart A).<sup>(1)</sup>

Chart A GDP and manufacturing and services output<sup>(a)</sup>



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

(b) Estimate of services output growth excluding the effect of snow is based on the ONS estimate that 0.4 percentage points of the snow impact on overall GDP growth in 2010 Q4 was accounted for by the service sector, and an assumption that this unwound in 2011 Q1.

As the level of GDP subsequently recovered, the quarterly growth rate of GDP will have been boosted by a corresponding amount. In addition to that, companies may have caught up some output that they were unable to produce in Q4. That could have further affected GDP in Q1. It is difficult to assess the size of the catch-up effect, but Bank staff estimate that companies only made up a very small part of the output lost in Q4.

### The impact of sharp movements in sectoral output

GDP growth in Q1 was also significantly affected by large decreases in construction and energy output: construction

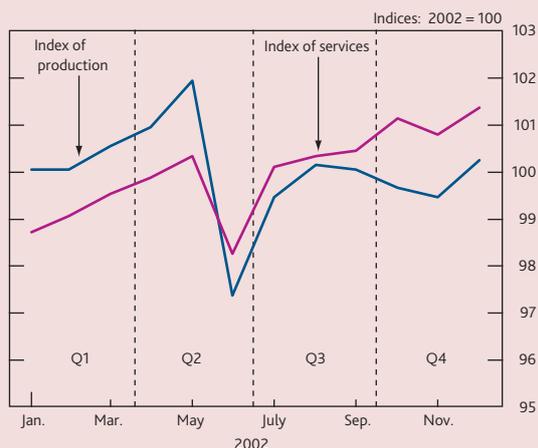
output fell by almost 5% and energy output by around 2%. Although activity in these sectors may continue to decline in coming quarters, it seems unlikely that there will be further falls of the same magnitude. Given that, it is helpful to consider GDP excluding those sectors when assessing the prospects for underlying activity. Excluding these sectors, and abstracting from the rebound in activity following the snow, growth was modest in Q1 (Chart A).

### The impact of the royal wedding

The additional bank holiday in April for the royal wedding could also affect growth rates during 2011. There is uncertainty about the likely size of the impact, but the extra bank holiday in June 2002 for the Queen's Golden Jubilee provides an example of the potential effects.

In 2002, the Jubilee holiday reduced output in both manufacturing and services in June (Chart B). That was in part due to working-day effects: while the ONS generally adjusts output for the number of working days, it does not take account of one-off bank holidays, so the additional day off reduced measured activity in most of the economy. In addition, some companies that usually closed their factories for plant maintenance later in the summer brought forward those closures as the number of staff on holiday was likely to increase. Those effects depressed output in June, but activity was boosted a little in the surrounding months as some output was rescheduled. Of course, activity in some sectors may have been boosted, for example in hotels and restaurants, but that was outweighed by the effect on other industries.

Chart B Index of production and the index of services in 2002



The impact on the path of GDP growth in 2002 appears to have been sizable. At the time, the ONS estimated that the effect of the Jubilee holiday could have reduced GDP growth in 2002 Q2 by between 0.2 percentage points and 0.7 percentage points, and boosted growth in Q3 by between 0.4 percentage points and 0.7 percentage points.<sup>(2)</sup> Furthermore, the Bank estimated that growth in Q4 was

depressed by as much as 0.2 percentage points as output returned to its usual level.<sup>(3)</sup>

The effect of the royal wedding is likely to dampen GDP growth in Q2 this year, but the size of the impact is very uncertain. As the extra bank holiday was in April, companies may be able to catch up any lost output in the remaining months of Q2. But the proximity of the royal wedding to Easter might have encouraged even more companies to move their plant closures forward than did so in 2002.

### Supply chain disruptions

Supply chain disruptions, following the earthquake and tsunami in Japan, are also likely to have reduced UK output in Q2. In particular, some major Japanese car manufacturers have announced cutbacks to their UK production due to shortages of components usually sourced from Japan, such that car output — which accounts for around 1% of GDP — is likely to have fallen quite substantially in April and May. There could also be an impact on the output of other industries that rely heavily on inputs sourced from Japan.

### Conclusions

GDP growth was affected by the snow and sharp changes in activity in some sectors in 2010 Q4 and 2011 Q1. Abstracting

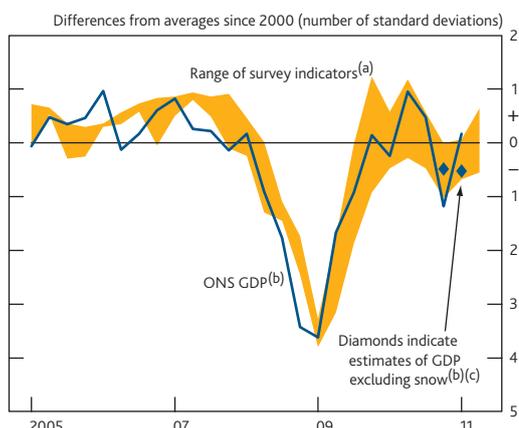
from these factors, it is likely that growth was quite weak around the turn of the year, on average: weighted together, and excluding the impact of snow, manufacturing and services output grew only a little in Q4 and by about 0.5% in Q1 (Chart A).

Other factors are likely to affect activity in Q2, and overall, the MPC judges that headline GDP growth is likely to be a little weaker than underlying output growth in that quarter. That is because the royal wedding and supply chain effects will probably weigh on GDP growth, although these effects may be partially offset by a positive contribution from construction output.

As the effects of the royal wedding and supply chain disruption unwind, GDP growth should be boosted in Q3. There may also be an additional upward effect on activity if any output lost in Q2 is made up in Q3. In that case, output growth would also be reduced in Q4. In addition, the extra bank holiday associated with the Queen's Diamond Jubilee could cause further GDP volatility around the middle of 2012.

- (1) More detail on the ONS estimate of the impact of snow on Q4 GDP can be found in 'Gross domestic product preliminary estimate', 25 January 2011.  
 (2) See the ONS release 'Quarterly national accounts', 23 December 2002.  
 (3) See *Inflation Report*, May 2003.

**Chart 3.2** GDP and survey indicators of business expectations



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

- (a) Aggregate measures of business expectations from the BCC, CBI and CIPS/Markit surveys 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.  
 (b) Quarterly growth, chained-volume measure at market prices.  
 (c) The ONS estimates that snow disruption depressed GDP growth in Q4 by 0.5 percentage points, and it is assumed that growth was boosted by a corresponding amount in Q1.

royal wedding and supply chain disruptions following the earthquake and tsunami in Japan. But some business confidence surveys, which are less likely to be distorted by such factors, are consistent with a pickup in underlying growth in the near term (Chart 3.2): expectations strengthened in services and remained robust in manufacturing.

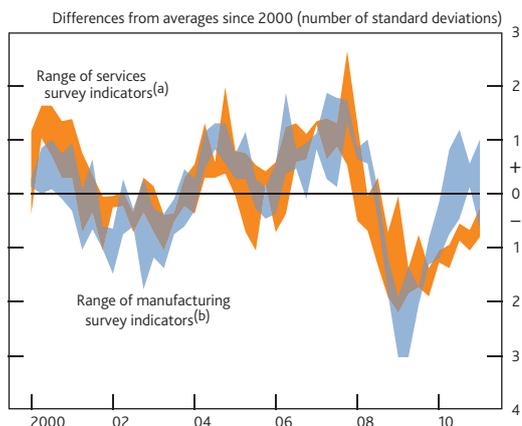
### 3.2 Companies' supply capacity and capacity pressures

The level of output relative to potential supply — the margin of spare capacity — is a key determinant of the costs to companies of increasing output, and therefore also of the prices that they set. Spare capacity can lie in the labour market or within companies. Spare capacity in the labour market (Section 3.3) tends to bear down on wage growth (Section 4). And spare capacity within companies means that higher demand can be met without a commensurate increase in staff employed, or the hours they work, so reducing the cost of expanding output.

#### Companies' potential supply and spare capacity

A margin of spare capacity opened up within companies during the recession, but its size is uncertain. In part that is because the path of output, and therefore productivity, over the past is uncertain, as GDP data are prone to revision and even later

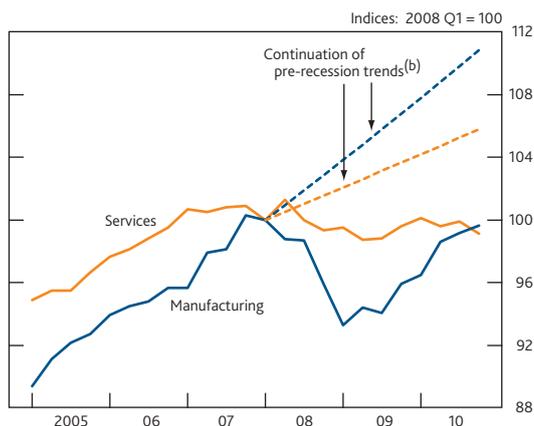
**Chart 3.3** Survey measures of capacity utilisation by sector



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

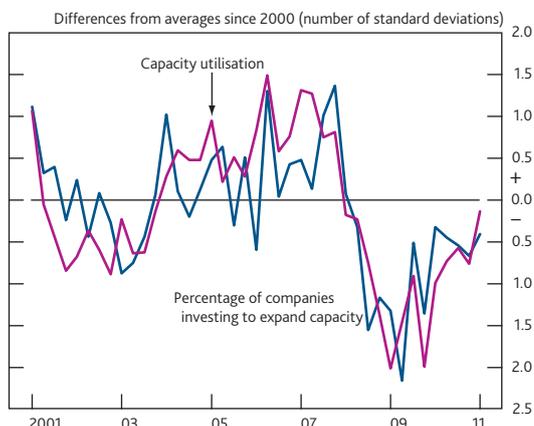
- (a) Includes measures of services capacity utilisation from the Bank's Agents, BCC and CBI. The CBI measure weights together financial services, business/consumer services and distributive trades surveys using shares in nominal value added. The BCC data are non seasonally adjusted.
- (b) Includes measures of manufacturing capacity utilisation from the Bank's Agents and CBI, and a measure of non-services capacity utilisation from BCC. The BCC data are non seasonally adjusted.

**Chart 3.4** Labour productivity by sector<sup>(a)</sup>



- (a) Output per hour.
- (b) Pre-recession trends are calculated by projecting forward labour productivity from 2008 Q2 using the average quarterly growth rate between 1996 Q1 and 2008 Q1.

**Chart 3.5** CBI survey responses on capacity utilisation and companies investing to expand capacity<sup>(a)</sup>



Sources: CBI, CBI/PwC and ONS.

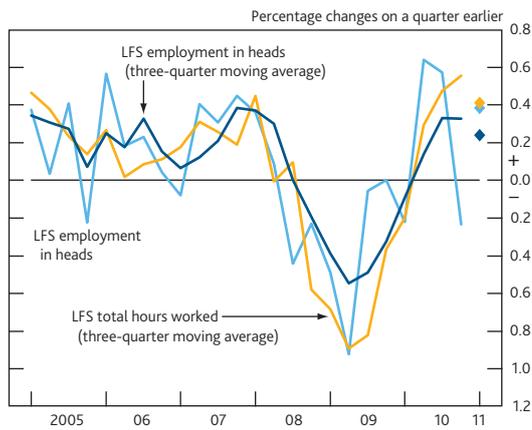
- (a) These measures weight together balances for the manufacturing, financial services and business/consumer services sectors using shares in nominal value added.

releases are still only imperfect estimates. But it is also because the evolution of potential supply is unobservable. One method for assessing the margin of spare capacity and the path of potential supply uses evidence on capacity utilisation from business surveys (**Chart 3.3**). Another uses the past trend in productivity, which proxies how companies' supply capacity might have evolved if the recession had had no effect on the growth rate of supply — as shown by the dashed lines in **Chart 3.4**. The gap between the dashed lines and solid lines in **Chart 3.4** then indicates how spare capacity would have evolved relative to 2008 Q1 if supply capacity had followed those past trends.

Both approaches to estimating potential supply suggest that the extent of spare capacity in the manufacturing sector widened during the recession. But business surveys suggest that manufacturing capacity has subsequently declined sharply, and that capacity pressures in 2010 Q4 were close to those at the start of the recession (**Chart 3.3**), whereas the pre-recession trend implies that spare capacity is currently much greater than in 2008 Q1 (**Chart 3.4**). In the service sector, both methods indicate that capacity pressures are lower than before the recession. But the surveys suggest that the amount of spare capacity has declined since 2009, whereas the pre-recession trend implies that the extent of spare capacity has continued to increase. Assessing the amount of spare capacity in the service sector is a particularly key judgement, as services account for around three quarters of GDP, while manufacturing represents just over a tenth.

It is likely that supply capacity grew somewhat more slowly than its pre-recession trend rate during the recession. As discussed in the *February Report*, there are a number of channels through which supply growth may have been impaired. The growth rate of the capital stock will have slowed as investment fell and some businesses were liquidated. And tighter credit conditions may have restricted some companies' ability to meet demand. Moreover, the decline in hours worked may have reduced the opportunity for employees to acquire skills while working. Those channels suggest that using the pre-recession trend may not give a good estimate of the extent of spare capacity.

But there is also mixed evidence on the reliability of the business surveys as an indicator of spare capacity. Within surveys, businesses' evaluation of their capacity utilisation appears to be consistent with their responses to other questions — for example, their responses on whether they are investing to expand capacity (**Chart 3.5**). And businesses have been increasing their workforce and the hours worked by their staff (Section 3.3), which is consistent with only a limited degree of spare capacity. But the level of investment undertaken by companies remains low (Section 2), which is consistent with them having a greater margin of spare capacity

**Chart 3.6** Measures of employment<sup>(a)</sup>

Source: Labour Force Survey.

(a) The diamonds are estimates for 2011 Q1 based on employment and total hours worked in the three months to February.

**Table 3.A** Surveys of employment intentions<sup>(a)</sup>

	Averages since 2000	2010				2011
		Q1	Q2	Q3	Q4	Q1
BCC <sup>(b)</sup>	14	6	11	2	4	10
CBI <sup>(b)</sup>	1	-15	2	2	-3	6
Agents' scores <sup>(c)</sup>	0.3	0.0	0.5	0.6	0.7	0.7
Manpower <sup>(b)</sup>	10	1	1	1	2	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 using employment 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.

**Chart 3.7** Average actual weekly hours<sup>(a)</sup>

Source: ONS (including the Labour Force Survey).

(a) Average weekly hours worked in main and second job. Data are at quarterly frequency. Data prior to 1992 Q2 are calculated as total hours divided by employment in heads.

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

than implied by the surveys. And it is unclear exactly how companies judge their potential supply capacity when responding to such surveys.

It may be the case, for example, that the surveys do not give an accurate reflection of the amount of capacity available to companies in the longer run, and instead provide information about the supply capacity that companies can use immediately and at little extra cost — their 'effective' supply. For example, some companies responded to the fall in demand during the recession by reducing the number of shifts or production lines. If those decisions are costly to reverse quickly, they will reduce the effective supply capacity available to businesses in the short run. But those decisions should be reversible in time, assuming demand recovers, providing companies with more supply capacity.

The MPC judges there to have been a persistent fall in the level of companies' supply capacity relative to a continuation of pre-recession trends, but that some spare capacity within companies nonetheless remains (Section 5). Some of that spare capacity is probably available to be used immediately. And some has probably been temporarily suspended but could return gradually as demand recovers.

That judgement suggests that labour productivity could grow faster than its pre-recession trend rate without generating inflationary pressure, and that some higher demand could be met with little recruiting (Section 5). So relatively strong productivity growth might be expected during the recovery. Indeed, since the trough in output in 2009 Q3, hourly productivity in manufacturing has grown at a rate that is a little more rapid than its pre-recession trend, although that recovery faltered slightly in 2010 H2 (Chart 3.4). In contrast, however, hourly productivity in services appears to have been broadly flat over the past four years (Chart 3.4).

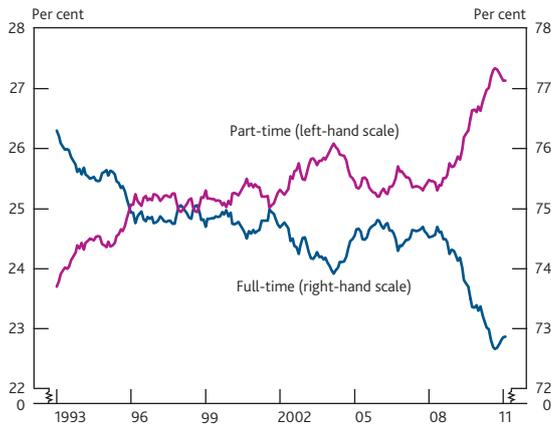
### 3.3 The labour market

#### Labour demand

As well as the scope to vary hourly productivity (Section 3.2), the near-term outlook for companies' demand for additional employees also depends on: labour costs (Section 4); demand (Section 2); and the extent to which changes in demand can be met by varying average hours worked. This subsection therefore considers recent developments in employment in heads and hours.

LFS employment rose by 143,000 in the three months to February, compared with the three months to November, after falling by 69,000 over the previous three-month period. LFS employment growth has been volatile recently. Smoothing through that volatility suggests that employment has been rising since the middle of 2010 (Chart 3.6), at around its pre-recession average rate. That picture is broadly

**Chart 3.8** Share of employment accounted for by full-time and part-time employment<sup>(a)</sup>



Source: Labour Force Survey.

(a) Rolling three-month measures.

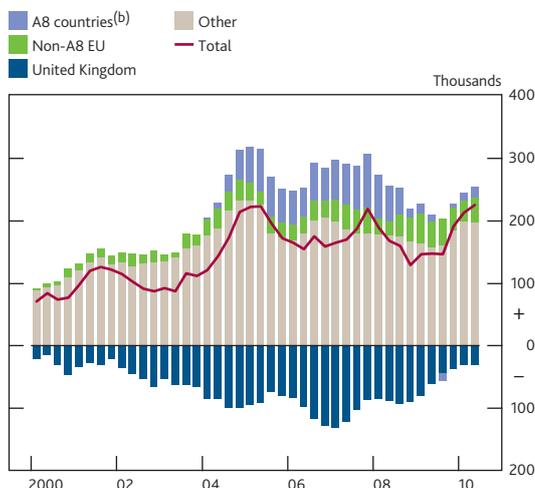
**Table 3.B** Changes in part-time employment by reason for working part-time

Changes on previous year, thousands	Averages			
	2000–07	2008	2009	2010 <sup>(a)</sup>
Could not find full-time job	-1	26	255	149
Did not want full-time job	46	18	-83	68
Other <sup>(b)</sup>	31	33	-51	2
<b>Total<sup>(c)</sup></b>	<b>76</b>	<b>77</b>	<b>121</b>	<b>219</b>

Source: Labour Force Survey.

(a) Numbers for 2010 based on quarterly data.  
 (b) Includes those who are ill or disabled, students and those who gave no reason.  
 (c) Numbers may not sum to total due to rounding.

**Chart 3.9** Estimates of net inward migration by citizenship<sup>(a)</sup>



Source: ONS International Passenger Survey.

(a) Estimates of net long-term international migration by citizenship. Data are non seasonally adjusted. Data for 2010 Q1 and Q2, the latest available observations, are provisional. Rolling four-quarter sum.

(b) Prior to 2004, net inward migration from the A8 is included in the 'Other' bar. The A8 countries are the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia and Slovenia.

consistent with surveys of employment intentions (**Table 3.A**) and with Workforce Jobs data.

The strength of labour demand may be understated by the size of the recent increase in employment alone. The average hours worked by those in employment have also risen, so that total hours have picked up sharply from their trough in mid-2009 (**Chart 3.6**). Although average hours remain below their pre-recession level, the likelihood of further increases is unclear, given their downward trend over recent decades (**Chart 3.7**).<sup>(1)</sup>

Movements in average hours may reflect changes in the hours worked by full and part-time employees, or else a shift in the share of these jobs in employment. The majority of the recent pickup in average hours occurred as the average hours of both full and part-time employees returned to their pre-recession levels, so there may be little scope for those to increase further. But there was a marked shift in the composition towards part-time employment during the recession (**Chart 3.8**). There may be some scope for that to reverse, which would increase overall average hours worked. In particular, during the recession there was a rise in the number of part-time employees who reported that they were working part-time but would prefer a full-time job (**Table 3.B**). Companies should therefore be able to increase the hours of these employees relatively easily.

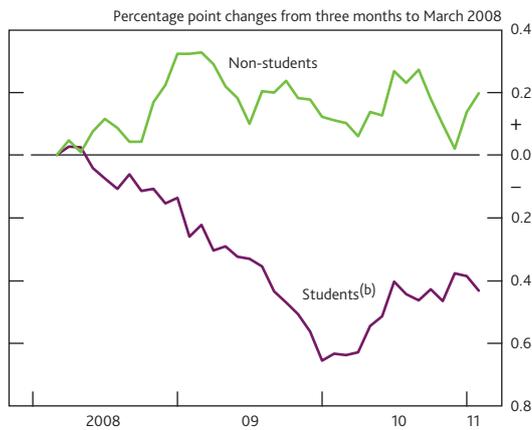
Prospects for employment will also depend on the impact of the fiscal consolidation. General government employment began to fall in 2010, decreasing by 111,000 over the year. According to Office for Budget Responsibility projections, general government employment is expected to fall by around 400,000 — or about 1.5% of total employment — over the next five years. But the private sector will remain the key driver of overall employment.

### Labour supply and labour market tightness

The impact of changes in labour demand on inflation will depend on the size of the labour force. That depends on both the population, and the proportion of people who participate in the labour market.

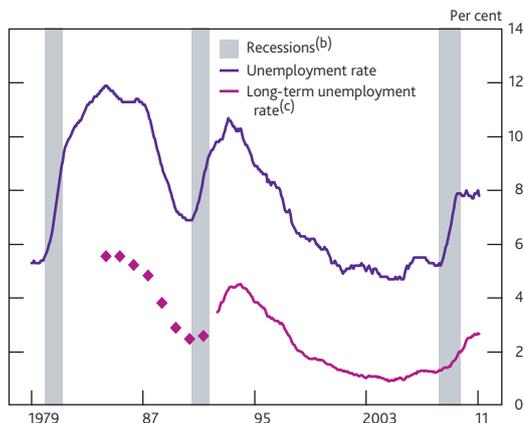
ONS estimates suggest that net immigration moved back to above its pre-recession level during the first half of 2010, thus boosting the population and supply of labour (**Chart 3.9**). That rise in net immigration was driven in part by fewer British citizens emigrating. There was also an increase in the number of people migrating to the United Kingdom from outside the European Union.

(1) This is likely to be due to rising real wages, which may encourage people to reduce their working hours, and increased female participation in the labour market, as more women work part-time and so fewer hours on average. See Barwell, R, Bell, V, Bunn, P and Gutiérrez-Domènech, M (2007), 'Potential employment in the UK economy', *Bank of England Quarterly Bulletin*, Vol. 47, No. 1, pages 60–69.

**Chart 3.10** Contributions to changes in the participation rate since the start of the recession<sup>(a)</sup>

Source: Labour Force Survey.

- (a) Percentages of the 16+ population. Rolling three-month measures.  
 (b) Data for students aged 16–64.

**Chart 3.11** Unemployment rates<sup>(a)</sup>

Source: ONS (including the Labour Force Survey).

- (a) Rolling three-month measures, unless otherwise stated.  
 (b) Recessions are defined as in Chart 3.7.  
 (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.

**Table 3.C** Selected indicators of labour market pressure

	Averages since 1998 <sup>(a)</sup>	2010				2011
		Q1	Q2	Q3	Q4	Q1
LFS unemployment rate <sup>(b)</sup>	5.8	8.0	7.8	7.7	7.9	7.8
Claimant count unemployment rate	3.4	4.9	4.6	4.6	4.5	4.5
Vacancies/unemployed ratio <sup>(b)(c)</sup>	0.35	0.19	0.20	0.19	0.19	0.20
<b>Recruitment difficulties</b>						
Agents' scores <sup>(d)</sup>	0.7	-2.8	-1.9	-1.6	-1.0	-0.7
BCC <sup>(e)</sup>	60	43	53	50	49	47
CBI skilled staff <sup>(f)</sup>	23	11	13	11	14	17
CBI unskilled staff <sup>(f)</sup>	6	2	2	4	1	3

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

- (a) Unless otherwise stated.  
 (b) The figure for 2010 Q4 shows data for the three months to February.  
 (c) Number of vacancies divided by LFS unemployment. Vacancies exclude agriculture, forestry and fishing. Average since June 2001.  
 (d) Agents' scores for recruitment difficulties in the most recent three months compared with the situation a year earlier. End-quarter observations. The scores are on a scale of -5 to +5, with positive scores indicating greater recruitment difficulties.  
 (e) 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.  
 (f) 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 service sectors), weighted by shares in employment. Averages since 1998 Q4.

The participation rate tends to fall in recessions as the unemployment rate picks up and reduced prospects of finding work discourage some people from searching for it. The participation rate has fallen a little since the start of the recession, but by less than in the 1990s. And the fall in participation during the recent recession has been entirely accounted for by an increase in the number of students (Chart 3.10). This fall may be less persistent than the falls associated with past recessions, where the rise in inactivity was also associated with long-term sickness and a fall in participation by older workers.

The amount of downward pressure that elevated unemployment puts on wages is also affected by the degree to which the unemployed become detached from the labour market. For example, people who suffer an extended period of unemployment may lose, or be unable to acquire, the skills sought by employers. Long-term unemployment has continued to increase, although it remains lower than in the 1980s and 1990s (Chart 3.11).

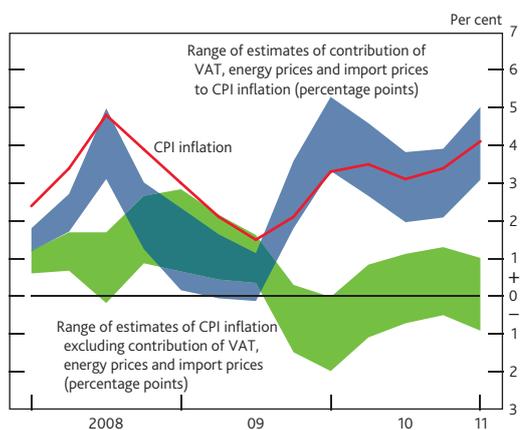
The degree of downward inflationary pressure resulting from high unemployment could also be reduced if structural changes in the economy lead to a mismatch between the demand for, and supply of, labour. This mismatch could arise across skills, regions or sectors. For example, difficulties in relocating could lead to a sustained period in which some regions have high vacancies, but others face high unemployment. There has been little evidence of increased mismatch in the UK labour market so far, but such effects may take time to emerge.

Given developments in labour supply and demand, it is likely that considerable slack remains in the labour market. The unemployment rate is just below 8%. Other indicators are also consistent with some degree of labour market slack (Table 3.C). That slack is likely to have put downward pressure on wage growth (Section 4). The extent to which elevated unemployment continues to put downward pressure on wages is a key judgement underlying the outlook for inflation (Section 5).

# 4 Costs and prices

CPI inflation rose further above the 2% target in 2011 Q1. Increases in VAT, energy and import prices can account for the current elevated rate of inflation and also for the increase in inflation in Q1. Excluding the effects of those factors, the prices of other goods and services appear to have increased at a rate below the inflation target, as spare capacity has put downward pressure on costs and prices. Evidence from movements in indicators of inflation expectations remained mixed. Regular pay growth remained around 2%.

**Chart 4.1** CPI inflation and the contribution of VAT, energy prices and import prices<sup>(a)</sup>



Sources: ONS and Bank calculations.

(a) The details behind these calculations are set out in the box on pages 34–35 of the February 2011 *Inflation Report*. The range of estimates of the impact of VAT on CPI inflation is based on the stylised illustrations shown in Chart 4.2. The VAT range is adjusted to allow for changes in VAT on petrol prices already being incorporated in the energy price impacts. The range of estimates of the impact of energy prices on CPI inflation is based on the direct contribution from electricity, gas and other fuels and fuels and lubricants and an estimate of the total impact including indirect effects, calculated as the average of the direct energy effects in the current and previous two quarters. The range of estimates of the impact of import prices on CPI inflation is based on differences between CPI goods inflation excluding energy and CPI services inflation excluding airfares. Further details can be found in the footnote to Chart B on page 34 of the February 2011 *Inflation Report*. The total range is calculated by adding together the top and bottom of the individual ranges for the impacts of VAT, energy prices and import prices. The green swathe shows CPI inflation less the minimum and maximum of the blue swathe.

**Table 4.A** Sensitivity of CPI inflation to changes in fuels and lubricants and electricity, gas and other fuels prices

	Weights in CPI basket (parts per 1,000)	Percentage point contributions to CPI inflation of: <sup>(a)</sup>	
		a decrease	an increase
10% change in fuels and lubricants prices	43	-0.4	0.4
10% change in electricity, gas and other fuels prices	44	-0.4	0.4
<b>Total impact<sup>(b)</sup></b>		<b>-0.9</b>	<b>0.9</b>

(a) Contributions to CPI inflation are calculated by multiplying the change in fuels and lubricants and electricity, gas and other fuels prices by their weight in the CPI basket in 2011. Therefore, the calculations show the impact on twelve-month inflation of one-off changes in these prices.

(b) Totals do not equal sum of individual changes due to rounding.

CPI inflation rose further above the 2% target in 2011 Q1. The elevated rate of inflation reflects a number of factors, whose influence is likely to be temporary (Chart 4.1). These include the increase in the standard rate of VAT to 20%, increases in energy prices and the pass-through of higher import prices (Section 4.1). There is a good chance that CPI inflation will reach 5% later this year, largely reflecting further recent increases in energy and import prices. But there remains significant uncertainty about the path of those prices: Table 4.A illustrates the sensitivity of CPI inflation to retail energy prices, while the box on pages 34–35 discusses global inflationary pressure.

As the impetus from external price pressures dissipates and the increase in VAT drops out of the annual comparison, inflation will depend on the balance between a number of substantial, but countervailing, forces. On the one hand, second-round effects of the sustained period of above-target inflation could place some upward pressure on prices and wages (Section 4.2), while companies may also seek to restore their profit margins (Section 4.3). On the other hand, spare capacity within companies and in the labour market (Section 3) should continue to bear down on costs and prices.

## 4.1 Consumer prices

CPI inflation was 4.0% in March, lower than in February but significantly higher than the 2010 Q4 average of 3.4%. RPI inflation was 5.3% in March. With January's CPI outturn lying more than 1 percentage point away from the target, the Governor, on behalf of the Committee, wrote an open letter to the Chancellor.<sup>(1)</sup>

As discussed in the February *Report*, the elevated rate of inflation over the past year or so can be accounted for by movements in VAT, energy and import prices (Chart 4.1).

(1) The letter is available at [www.bankofengland.co.uk/monetarypolicy/pdf/cpiletter110215.pdf](http://www.bankofengland.co.uk/monetarypolicy/pdf/cpiletter110215.pdf).

Although the effects cannot be identified precisely, Bank analysis suggests that together these factors could have contributed between 3 and 5 percentage points to CPI inflation in 2011 Q1.<sup>(1)</sup> And, over the whole period since 2006 Q4, they have probably contributed between 8% and 13% to the price level.

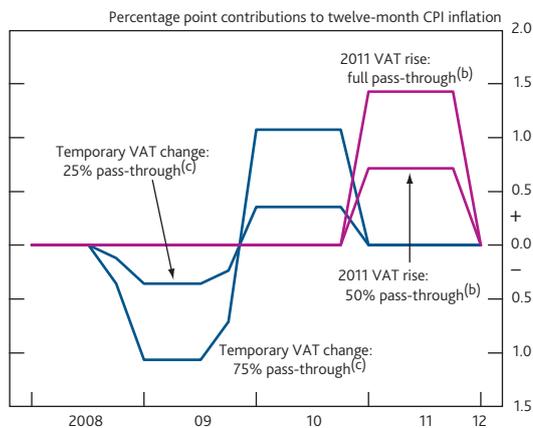
Excluding the estimates of the contribution of VAT, energy and import prices, prices of other goods and services appear, on average, to have increased at a rate below the inflation target since mid-2009 (**Chart 4.1**). That does not indicate what inflation would have been in the absence of those factors, as many aspects of the economy would have been different had VAT, energy and import prices not risen. But it does suggest that other forces have reduced domestically generated inflation (Section 4.3).

The rest of this subsection discusses the past impact of VAT, energy and import prices, and their role in explaining why inflation may rise further in the near term.

## VAT

The contribution of VAT to annual CPI inflation is likely to have increased in 2011 Q1, as pass-through to consumer prices of the increase in the standard rate to 20% at the beginning of this year appears to have been higher than for the restoration of the rate to 17.5% in January 2010. As discussed in previous *Reports*, evidence from the ONS appears broadly consistent with around half of the temporary cut to 15% in December 2008, and the subsequent reversal in 2010, having been passed through into consumer prices. The ONS estimates that the 2011 VAT rise increased the twelve-month inflation rate by around 0.8 percentage points between December 2010 and January 2011.<sup>(2)</sup> And Bank staff estimate that further pass-through is likely to have occurred subsequently, so that around three quarters of the increase was passed on to consumer prices by the end of Q1.

**Chart 4.2** Stylised illustration of the contribution of changes in VAT to twelve-month CPI inflation<sup>(a)</sup>



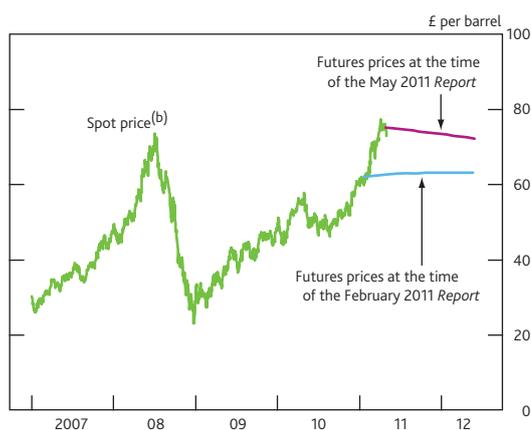
Sources: ONS and Bank calculations.

- (a) Data are shown at a quarterly frequency. The examples make the simplifying assumption that businesses only adjust their prices in the months in which VAT was changed.
- (b) The 2011 VAT rise was from 17.5% to 20% in January 2011. The share of prices subject to VAT is based on the 2010 basket. The lines show the contribution to twelve-month CPI inflation assuming that the prices of half of or the entire CPI basket subject to the standard rate of VAT vary in response to the changes in VAT.
- (c) The temporary VAT change was a cut from 17.5% to 15% in December 2008 and a rise from 15% to 17.5% in January 2010. The share of prices subject to VAT is based on the 2009 basket. The lines show the contribution to twelve-month CPI inflation assuming that the prices of a quarter or three quarters of the CPI basket subject to the standard rate of VAT vary in response to the changes in VAT.

**Chart 4.2** shows a stylised illustration of the contribution of VAT to CPI inflation using different assumptions about the extent of pass-through. For example, varying the extent of pass-through for the 2011 increase between 50% and 100% suggests that the contribution to inflation is likely to have been between 0.7 and 1.4 percentage points in 2011 Q1. That can be compared with the 0.4 to 1.1 contribution obtained by varying the extent of pass-through for the 2010 increase between 25% and 75%. If the pass-through of the latest increase is now complete, then the effect on inflation should remain broadly the same until it drops out of the twelve-month comparison in early 2012.

(1) The methodology used to calculate these estimates is described in a box on pages 34–35 of the February 2011 *Inflation Report*.

(2) See the information note available at [www.statistics.gov.uk/downloads/theme\\_economy/vat-increase-on-cpi.pdf](http://www.statistics.gov.uk/downloads/theme_economy/vat-increase-on-cpi.pdf).

**Chart 4.3 Sterling oil prices<sup>(a)</sup>**

Sources: Bloomberg, Thomson Reuters Datastream and Bank calculations.

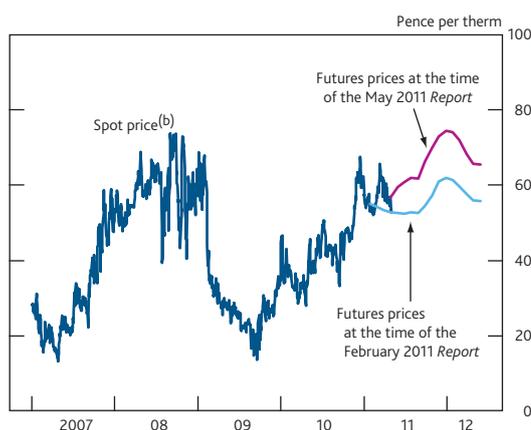
- (a) Futures prices for February and May are averages during the fifteen working days to 9 February and 4 May respectively. Each futures curve assumes that the sterling-dollar exchange rate remains constant at its average during those periods.  
 (b) Brent forward prices for delivery in 10–21 days' time converted into sterling.

## Energy prices

Energy prices have been a major influence on CPI inflation in recent years. For example, oil prices rose sharply in 2007 and the first half of 2008, fell back rapidly during the worst of the financial crisis, but then rose steadily throughout 2009 and 2010 (**Chart 4.3**). Between the February and May Reports, the price of Brent crude, in sterling terms, rose by a further 22%.

Those recent price increases appear to have been triggered by concerns about oil supply following political developments in the Middle East and North Africa. In particular, Libya accounts for about 2% of world oil production, and output there fell significantly following recent unrest. The rise in oil prices could also reflect the risk that unrest will spread to other large oil producers in the region. Futures prices in the fifteen working days to 4 May suggested that oil prices were expected to fall gradually during the rest of 2011 (**Chart 4.3**). But the degree of uncertainty attached to the outlook for oil prices by financial market participants increased a little between the February and May Reports (Section 1).

Higher oil prices affect CPI inflation directly through the price of fuels, and indirectly through their impact on the production and transportation costs of other goods and services. Petrol prices contributed 0.6 percentage points to CPI inflation in 2011 Q1, a slightly higher contribution than in 2010 Q4, reflecting the rapid pass-through of higher oil prices and the effect of higher VAT on petrol. And inflation in Q1 is likely to have been raised by the indirect effects of the oil price increases since mid-2010.

**Chart 4.4 Sterling gas prices<sup>(a)</sup>**

Sources: Bloomberg, Thomson Reuters Datastream and Bank calculations.

- (a) Futures prices for February and May are averages during the fifteen working days to 9 February and 4 May respectively.  
 (b) One-day forward price of UK natural gas.

CPI inflation in 2011 Q1 was also boosted by recent increases in retail gas and electricity prices. Further, wholesale gas price futures rose by just under 20% in the period between the February and May Reports (**Chart 4.4**). Some of that increase occurred following the Japanese earthquake and tsunami in March, reflecting concerns that supplies of liquefied natural gas could be diverted away from the United Kingdom to Japan for a sustained period. And it may also have reflected the announcement by the German Government of a moratorium on the development of nuclear power stations.

The MPC's latest central projection assumes a 15% rise in domestic gas prices and a 10% rise in electricity prices during 2011 H2 and 2012 Q1, materially larger than the 5% increase in gas prices underlying the projections in the February Report. But there is considerable uncertainty about the scale and pace of the pass-through of changes in wholesale energy prices to utility prices.

Overall, the contribution of energy prices, both direct and indirect, to CPI inflation was probably between  $\frac{3}{4}$  and  $1\frac{1}{4}$  percentage points in 2011 Q1. That contribution could rise significantly over the rest of the year, reflecting the assumption on utility prices — which would add around  $\frac{1}{2}$  percentage point to CPI inflation — and further indirect

effects from energy price increases. The direct contribution from petrol prices is likely to stay broadly unchanged over that period, assuming that oil prices follow futures prices.

But, given the volatility of energy prices, any such assumptions are very likely to be proven wrong. And plausible alternative paths for retail energy prices would have a significant impact on CPI inflation. Between the February and May *Reports*, sterling oil prices rose by 22%, broadly consistent with an eventual increase in petrol prices of just under 10%. And the MPC's assumption on domestic gas and electricity prices was revised up by 10 percentage points. **Table 4.A** on page 30 illustrates that, relative to the paths underlying the MPC's latest projections for inflation, the combined impact of petrol prices increasing by a further 10% and gas and electricity bills rising by a further 10% would mechanically add 0.9 percentage points to CPI inflation. Or, alternatively, the impact of petrol prices falling by 10% and utility prices being 10% weaker than expected would reduce inflation to a similar degree. That highlights the scope for energy prices to be a major determinant of near-term movements in CPI inflation.

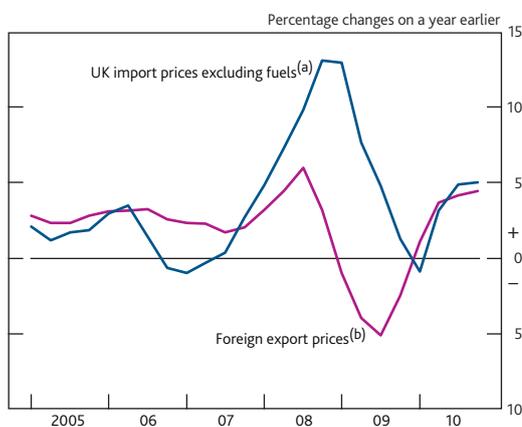
**Chart 4.5** Commodity prices<sup>(a)</sup>



Sources: Standard & Poor's and Thomson Reuters Datastream.

(a) The agriculture and livestock and industrial metals series are calculated using S&P (dollar) commodity price indices.

**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.

### Non-energy commodity and import prices

Global inflationary pressures have strengthened over the past year. As discussed in the box on pages 34–35, in large part that recent strength is likely to have reflected increases in commodity prices, including non-energy commodities such as metals and agricultural products (**Chart 4.5**). Although energy prices rose further after the February *Report*, metals and agricultural prices were broadly unchanged. Futures curves for non-energy commodities are broadly flat or slightly downward sloping.

UK import prices depend on the evolution of both world prices and the exchange rate. Import prices rose rapidly following the depreciation of sterling between the middle of 2007 and the end of 2008 (**Chart 4.6**). The recent further pickup in import prices has been driven by movements in global prices.

The extent and timing of the pass-through of increases in import prices to UK CPI inflation is uncertain. But, as explained in the February *Report*, one way of assessing that pass-through is by considering relative movements in consumer goods and services prices. Estimates based on that approach — and the assumption that goods prices are between two and three times more import-intensive than services — suggest that non-energy import prices could have contributed between 1½ and 2½ percentage points to CPI inflation in 2011 Q1. And, since the depreciation of sterling that began in 2007, import prices may have contributed 4¼% to 6½% to the level of consumer prices.

Looking ahead, the already sizable contribution of import prices to CPI inflation in 2011 Q1 is likely to increase over the rest of the year, as past increases in commodity prices feed

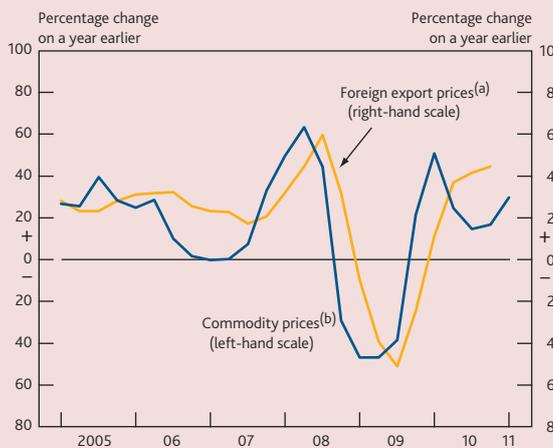
## Global inflationary pressure

Marked increases in UK import prices have raised CPI inflation in recent years. A significant part of that strength reflected the depreciation of sterling, but, more recently, increases in world export prices have also added upward pressure. And domestic inflation in some other countries, especially emerging economies, has been relatively high and increasing. A key issue is whether global inflationary pressures will remain elevated. That will depend, in part, on why global prices have been rising.

### World export price pressures

Much of the recent strength in world export price inflation has reflected substantial rises in commodity prices (**Chart A**). In part, that reflected supply factors in some commodity markets, as discussed in a box in the February *Report*.<sup>(1)</sup> Adverse weather conditions have raised some agricultural commodity prices. And since the February *Report*, developments in the Middle East and North Africa have led to disruptions in oil supply, which have boosted oil prices. If some of those supply pressures recede, prices in affected markets could well fall back, putting downward pressure on inflation.

**Chart A** Commodity prices and foreign export prices



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

(a) 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. The latest observation is 2010 Q4.

(b) Standard & Poor's commodity price index in US dollars. The latest observation is 2011 Q1.

Robust global demand for commodities has also played an important role, however. Global demand was stronger than expected in 2010. For example, growth in developing Asia, a region where commodity demand has been increasing rapidly, turned out more than 3 percentage points higher in 2010 than the IMF had expected in Spring 2009. Such upside surprises are likely to have boosted commodity prices.

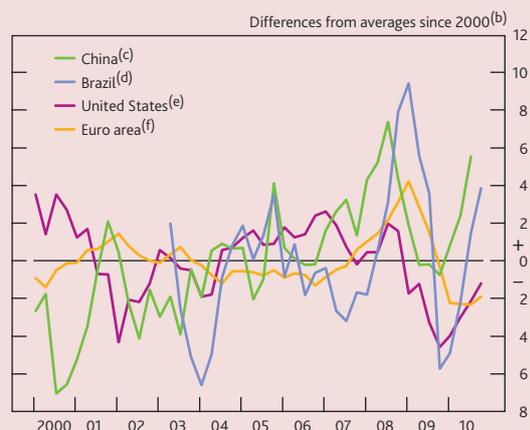
In order to gauge the outlook for global prices, it is useful to consider not only whether global growth could continue to boost commodity prices, but also whether demand is boosting

global inflationary pressure more generally. It is possible that the unexpectedly strong recovery in global demand over 2010 simply reflected an earlier-than-expected recovery, particularly in those economies that had not been directly affected by the financial crisis. In that case, high CPI inflation in some emerging economies may primarily reflect rising commodity prices; if growth settles at close to trend, then upward pressure on both commodity and consumer price inflation could abate. Most commodities futures prices are currently downward sloping or broadly flat, although those prices did not anticipate the rise in commodity prices over the past three years.

But high CPI inflation in some emerging economies may signal that growth is proceeding at unsustainable rates and leading to pressures on productive capacity. In the April 2011 *World Economic Outlook*, the IMF reported that output in a number of emerging economies was above pre-crisis trends. And even if current high CPI inflation in some emerging economies does largely reflect rises in the price of commodities such as food and energy, inflationary pressures could persist if those rises feed through to higher labour costs.

Faster growth in unit labour costs, which measure labour costs per unit of output produced, could therefore signal more persistent inflationary pressures. In some emerging economies, for example Brazil and China, unit labour cost growth appears to be at above-average rates, having increased quite sharply in recent quarters (**Chart B**). In response to growing inflationary pressures, the central banks in those countries, and in other parts of emerging Asia and

**Chart B** Four-quarter growth in unit labour costs in selected economies<sup>(a)</sup>



Sources: CEIC, European Central Bank, OECD, Thomson Reuters Datastream and Bank calculations.

(a) Series are unit labour cost measures apart from for Brazil which is a measure of unit wage costs. The latest observation is 2010 Q4, unless otherwise stated.

(b) Unless otherwise stated.

(c) The compensation of employees data used in the calculation cover urban areas only and exclude people working in private enterprise and the self-employed. The latest observation is 2010 Q3.

(d) The average wage and employment data used in the calculation cover the six major metropolitan areas only. Difference from average since 2003 Q2.

(e) Data are for the non-farm business sector.

(f) Data are for the 17 euro-area countries.

Latin America, have tightened policy. But overall global inflationary pressure depends on pressures in advanced economies too: unit labour costs have recently been growing at or below average rates in the United States and the euro area (**Chart B**).

### Conclusions and implications for the United Kingdom

The outlook for commodity prices is always uncertain. In particular, further demand or supply shocks could lead to sharp movements in prices. And changes in the commodity-intensiveness of growth may also lead to substantial price movements.

But there is particular uncertainty at present around the role of global activity in global inflationary pressures. The recent strength in commodity and world export price inflation could abate if it reflects a combination of supply-side factors in commodity markets and an earlier-than-expected recovery in world growth. But if overheating in emerging economies has

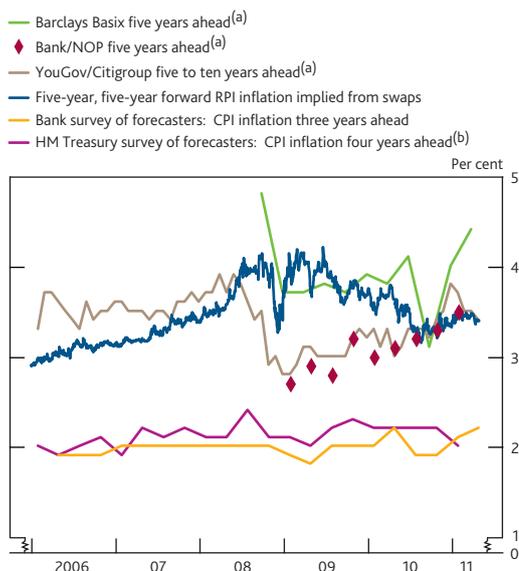
also pushed up prices, then global inflationary pressures could prove more persistent, without appropriate countervailing action by policymakers.

In some circumstances, a persistent increase in domestic inflation in overseas economies relative to that in the United Kingdom could be offset by a corresponding move in bilateral exchange rates which could limit the consequences for UK import prices.

To date, indicators point to relatively modest inflationary pressures in the United States and the euro area, which together account for more than half of UK imports. But inflationary pressures in some emerging economies appear to have increased recently and, depending on exchange rate movements, that could put further upward pressure on UK inflation.

(1) See the box on page 33 of the February 2011 *Report*.

**Chart 4.7** Indicators of longer-term inflation expectations



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

- (a) These household measures do not reference a specific price index and are based on the median estimated price change.  
 (b) Taken from *Forecasts for the UK economy: a comparison of independent forecasts*. Based on the independent average of medium-term projections published in February, May, August and November.

through into global prices and then into UK consumer prices. Evidence from indicators at the early stage of the supply chain lends some support to that view. For example, input and output prices in the manufacturing sector, excluding the direct effects of higher energy prices, picked up further in 2011 Q1.

## 4.2 Inflation expectations

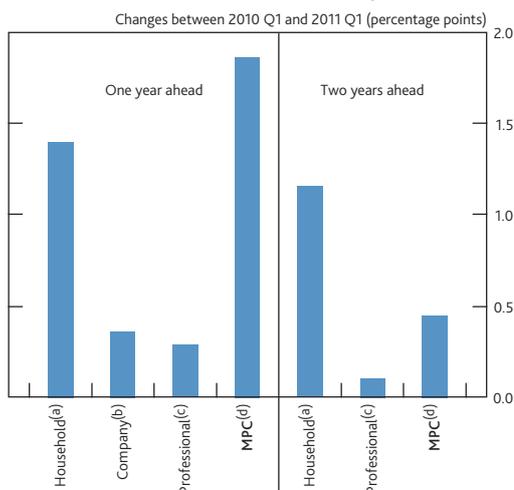
### Developments in inflation expectations

Evidence from movements in indicators of longer-term inflation expectations remains mixed (**Chart 4.7**). Measures of longer-term household expectations have picked up over the past year, to levels at or above their series averages. But only a short backrun of data is available for most of these series, so it is not clear how much should be read into such comparisons. Longer-term expectations of professional forecasters have remained broadly stable over the past year, while the expectations of financial market participants have fallen slightly over the same period. Overall, these indicators of inflation expectations do not provide any strong evidence that longer-term inflation expectations have risen materially.

Even without material increases in longer-term expectations, however, there could be greater upward pressure on wages and prices if households and companies expect inflation to return to target, but only slowly, perhaps because they think that the MPC is currently more tolerant of deviations of inflation from the target. That might be reflected in higher shorter-term inflation expectations, although it is hard to disentangle those effects from the impact of the increases in VAT, energy and import prices discussed in Section 4.1, which are also likely to raise shorter-term expectations.

One way of attempting to distinguish between these factors is to compare changes in inflation expectations with the

**Chart 4.8 Shorter-term inflation expectations**



Sources: Bank of England, Barclays Capital, CBI (all rights reserved), Citigroup, GfK NOP, HM Treasury, YouGov and Bank calculations.

(a) Based on averages of expectations for inflation from the Barclays Basix, Bank/NOP and, for the one year ahead measure only, YouGov/Citigroup surveys. These surveys do not reference a specific price index and are based on the median estimated price change.

(b) CBI data for the manufacturing, business/consumer services and distribution sectors, weighted using nominal shares in value added. Companies are asked about the expected percentage price change over the coming twelve months in the markets in which they compete.

(c) Averages of expectations of CPI inflation from the HM Treasury and Bank of England surveys.

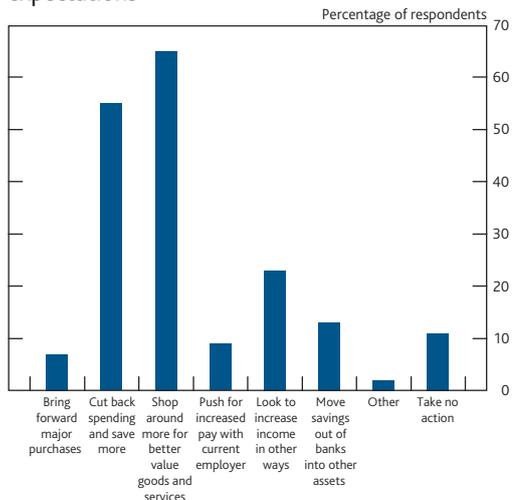
(d) The MPC measure is based on modal projections under market interest rates in the February 2010 and February 2011 *Inflation Reports*.

revisions to the MPC’s own view of the most likely path for inflation. The evidence here is mixed. For one year ahead measures of expectations, the increases seen over the year to 2011 Q1 are actually smaller than the increase in the MPC’s modal CPI projection over the same period (Chart 4.8). But at the two-year horizon, measures of household expectations have increased by more than the comparable revision to the MPC’s projection, although professional forecasters’ expectations have risen by somewhat less.

**The transmission of inflation expectations**

An increase in household inflation expectations could encourage employees to ask for higher pay from their employer. In response to a special question in the latest Bank/NOP *Inflation Attitudes Survey* only around 10% of households said that they would respond to higher near-term inflation expectations by requesting higher wages (Chart 4.9). But, as some employees are covered by collective bargaining agreements, that may understate the proportion of households for which an increase in inflation expectations may lead to higher pay demands.

**Chart 4.9 Households’ response to higher inflation expectations<sup>(a)</sup>**



Sources: Bank of England, GfK NOP and Bank calculations.

(a) Respondents to the February 2011 Bank of England/GfK NOP *Inflation Attitudes Survey* were asked which, if any, of these actions they are taking, or planning to take, in light of their expectations of price changes over the next twelve months. Respondents could select up to three options.

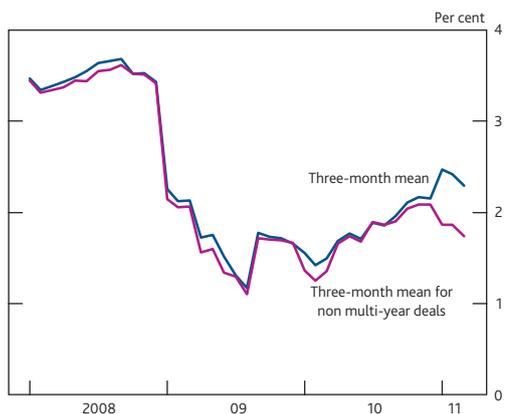
An increase in companies’ inflation expectations could lead them to raise their prices by more, or more frequently, than they would otherwise have done. And it could encourage employers to grant higher wages at the same time as raising prices in order to retain or motivate their staff. Information on how companies’ inflation expectations affect price and wage-setting behaviour is scarce. But evidence from the CBI suggests that over the next twelve months, businesses plan to raise their own prices and wage costs by more than they did over the past twelve months.

**4.3 Labour costs and companies’ pricing decisions**

**Labour costs**

Private sector pay settlements picked up in 2011 Q1: the mean settlement recorded over the three months to March was 2.3% (Chart 4.10). That increase was driven by multi-year settlements, in part reflecting the fact that multi-year deals that were agreed prior to this year are more likely than other settlements to have an explicit link to a measure of inflation such as the RPI. Settlements that have been agreed only for the next year have, in general, been somewhat lower. But data on multi-year settlements tend to be reported earlier. So, as the proportion of single-year deals rises over time, the extent of the pickup in aggregate pay settlements is likely to be revised down.

**Chart 4.10 Private sector pay settlements**



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

Although the twelve-month mean settlement has risen a little recently, average weekly earnings (AWE) growth excluding bonuses has remained around 2%, some way below its pre-recession average rate (Table 4.B). Over that period, regular pay drift has been broadly stable, following a period in

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

	Percentage changes on a year earlier		2010				2011
	Averages 2001–07	2009	Q1	Q2	Q3	Q4	Feb. <sup>(b)</sup>
(1) AWE regular pay	3.9	1.2	1.0	0.6	2.1	2.1	2.2
(2) Pay settlements <sup>(c)</sup>	3.3	2.5	1.6	1.6	1.7	1.8	1.9
(1)–(2) Regular pay drift <sup>(d)</sup>	0.6	-1.3	-0.6	-1.0	0.4	0.3	0.3
<b>(3) Total AWE</b>	<b>4.3</b>	<b>-1.0</b>	<b>4.4</b>	<b>0.2</b>	<b>1.9</b>	<b>1.7</b>	<b>2.4</b>
(3)–(1) Bonus contribution <sup>(d)</sup>	0.4	-2.1	3.4	-0.4	-0.2	-0.4	0.3

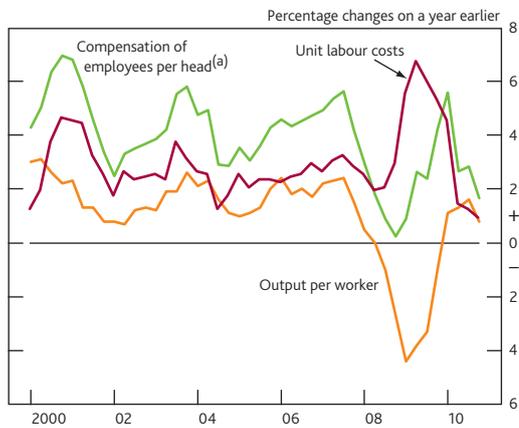
Sources: Bank of England, Incomes Data Services, the Labour Research Department, ONS and XperTHR.

(a) Based on quarterly data unless otherwise stated.

(b) Data in the two months to February.

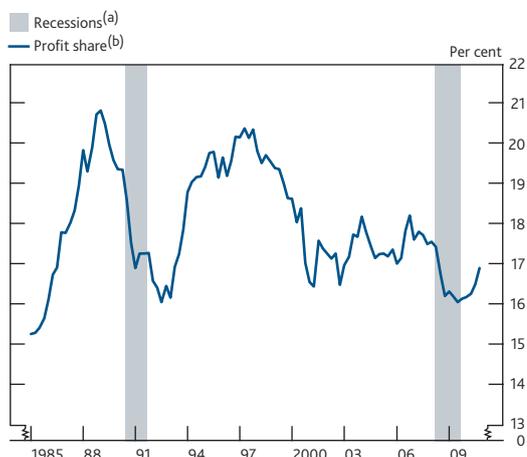
(c) Average over the past twelve months, based on monthly data.

(d) Percentage points.

**Chart 4.11** Employees' compensation, labour productivity and unit labour costs

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

(a) Employees' compensation at current prices divided by LFS employees.

**Chart 4.12** Corporate profit share (excluding financial corporations and the oil sector)

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

which a rise in drift had accounted for much of the pickup in regular pay growth from the very low levels seen in early 2010.

Regular pay drift captures changes in earnings related to working patterns — such as overtime payments — as well as the impact of merit pay increases, which could be associated with productivity improvements. Increases in these components of pay raise AWE growth. But they may put little or no upward pressure on labour costs per unit of output, which reflect developments in both earnings and labour productivity, and is a more relevant measure of costs for companies' pricing decisions. Unit labour costs grew rapidly during 2009 — reflecting the sharp fall in productivity (Chart 4.11). Unit labour cost growth was weaker in 2010, although the most recent weakness in productivity growth, following subdued output growth but continued growth in employment (Section 3), may put some renewed upward pressure on unit labour costs.

Spare capacity in the labour market (Section 3) is likely to have put downward pressure on wage and unit labour cost growth, as high unemployment reduced the cost to businesses of recruiting and retaining employees.

The extent to which wages are likely to be raised by high near-term inflation — if households and businesses come to expect inflation to persist, or if it leads to resistance to the erosion of households' real incomes (Section 2) — but are likely to be depressed by the substantial degree of slack in the labour market cannot be judged precisely. And the path of productivity will also determine the extent to which any further pickup in wage growth is consistent with meeting the inflation target in the medium term. Section 5 discusses the outlook for wages and productivity.

### Companies' pricing decisions

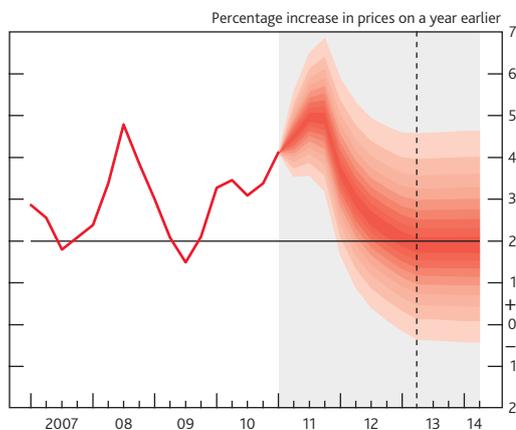
Weakness in output since the onset of the recession and the related margin of spare capacity (Section 3) is likely to have put downward pressure on prices as well as wages. And that is likely to be a key reason why domestically generated inflation appears to have been running at a rate below the inflation target since mid-2009 (Chart 4.1).

Weakness in domestically generated inflation had, until recently, also been accompanied by strong growth in unit labour costs (Chart 4.11). Consistent with that, average profit margins — measured by the share of private non-financial companies' profits in total income — fell sharply during the recession (Chart 4.12). Those companies selling predominantly to the domestic market will have experienced an even greater margin squeeze, given that margins for some exporters widened after the sharp rise in sterling export prices that followed the depreciation of sterling. Chart 4.12 suggests that average margins have now started to recover, consistent with some upward pressure on domestic prices, and hence CPI inflation.

# 5 Prospects for inflation

CPI inflation is likely to rise further this year, following additional increases in energy and import prices. It is then expected to fall back during 2012, as the effects of high energy and import price inflation and the recent rise in VAT diminish, and downward pressure from spare capacity persists. But the precise timing and extent of that fall are uncertain. Underlying growth has moderated in recent quarters, but it is unclear whether that slowdown is temporary or will be prolonged. The continued global recovery, the considerable stimulus from monetary policy and the past depreciation of sterling should all help to support growth. But the continuing squeeze on households' real incomes is likely to weigh on demand, especially over the next year or so. Under the assumptions that Bank Rate moves in line with market interest rates and the stock of purchased assets financed by the issuance of central bank reserves remains at £200 billion, the chances of inflation being above or below the target in the medium term are judged to be about the same.

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



Charts 5.1 and 5.4 depict the probability of various outcomes for CPI inflation in the future. They have been conditioned on the assumption that the stock of purchased assets financed by the issuance of central bank reserves remains 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 5.1 the probabilities in the lower bands are slightly smaller than those in the upper bands at Years 1, 2 and 3, albeit that the upward skew in Year 1 is smaller than those at Years 2 and 3. The upward skews in Chart 5.1 are somewhat smaller than those in Chart 5.4, where the ratios are approximately 4:6 at Years 2 and 3; the upward skew at Year 1 is smaller. 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.

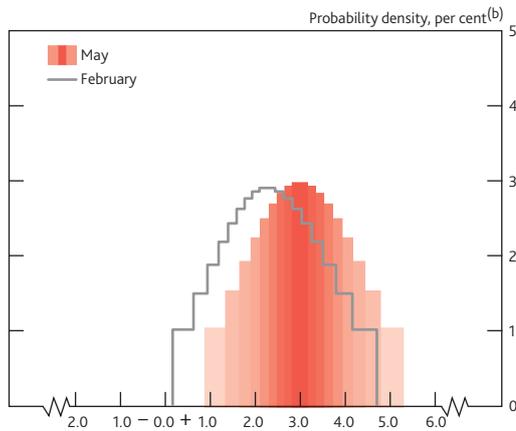
## 5.1 The projections for inflation and demand

There are considerable uncertainties around the future path of inflation. Inflation continues to be sensitive to movements in commodity and energy prices, which have been extremely volatile in the recent past, and could well move sharply again during the forecast period. But the medium-term outlook for inflation will also reflect substantial, but opposing, domestic pressures on inflation. To the upside, second-round effects of the sustained period of above-target inflation could put upward pressure on prices. To the downside, a continuation of recent weak growth and the presence of a substantial margin of spare capacity could push inflation well below the target. The MPC will continue to set policy to balance the upside and downside risks in order to meet the inflation target in the medium term.

Chart 5.1 shows the outlook for CPI inflation, on the assumption that Bank Rate follows a path implied by market interest rates. Along with all the other charts displaying the MPC's projections appearing in this section, Chart 5.1 assumes that the stock of purchased assets financed by the issuance of central bank reserves remains at £200 billion throughout the forecast period.

There is a good chance that inflation will reach 5% later this year, and it is more likely than not to remain above the target throughout 2012, boosted by the increase in the standard rate of VAT, higher energy and import prices, and some restoration of companies' profit margins. The projection is markedly higher over the first half of the forecast period than in February (Chart 5.4 shows the February projection; Charts 5.2 and 5.3

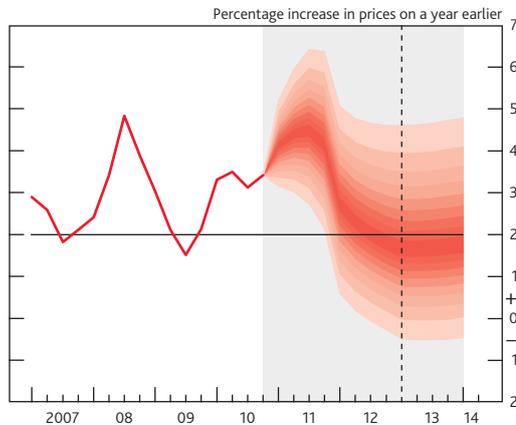
**Chart 5.2** Projected probabilities of CPI inflation outturns in 2012 Q2 (central 90% of the distribution)<sup>(a)</sup>



(a) Charts 5.2 and 5.3 represent cross-sections of the CPI inflation fan chart in 2012 Q2 and 2013 Q2 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 remains at £200 billion 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 inflation in 2012 Q2 and 2013 Q2 would lie somewhere within the range covered by the histogram on 90 occasions. Inflation would lie outside the range covered by the histogram on 10 out of 100 occasions. The grey outlines in Charts 5.2 and 5.3 represent the corresponding cross-sections of the February 2011 *Inflation Report* fan chart, which was conditioned on the same assumption about the stock of purchased assets financed by the issuance of central bank reserves.

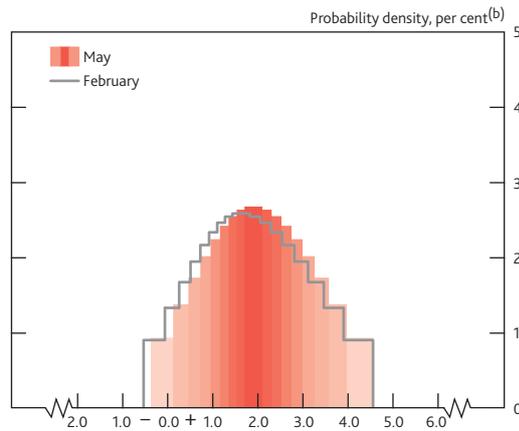
(b) Average probability within each band; the figures on the y-axis indicate the probability of inflation being within  $\pm 0.05$  percentage points of any given inflation rate, specified to one decimal place. As the heights of identically coloured bars on either side of the central projection are the 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 5.4** CPI inflation projection in February based on market interest rate expectations and £200 billion asset purchases



See footnote to Chart 5.1.

**Chart 5.3** Projected probabilities of CPI inflation outturns in 2013 Q2 (central 90% of the distribution)<sup>(a)</sup>

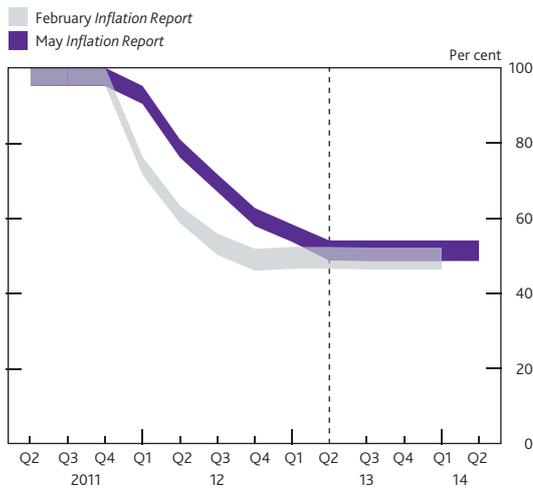


show the spread of outcomes for CPI inflation one and two years ahead in the May and February Reports). That largely reflects further rises in energy prices and, associated with them, a higher likelihood of substantial increases in domestic utility prices over the next year. As the impetus from external price pressures dissipates and the increase in VAT drops out of the annual comparison, inflation should fall back. But the precise timing and extent of that decline in inflation are uncertain, and will be sensitive to the extent of any further pass-through from the past depreciation of sterling, and to the evolution of energy and commodity prices: for example, plausible alternative paths for domestic utility prices would have significant implications for the inflation outlook (Section 4).

Inflation will also depend on the balance between two other substantial, but countervailing, forces. To the downside, persistent spare capacity is likely to weigh on wages and prices for much of the forecast period. The extent of that downward pressure will depend on the strength of demand, but also on the evolution of productivity and the performance of the labour market, and therefore the path of potential supply. But to the upside, the protracted period of above-target inflation may lead to further upward pressure on prices, if households and businesses come to expect elevated inflation to persist, or if the recent and prospective squeeze on households' real incomes leads to higher pay growth.

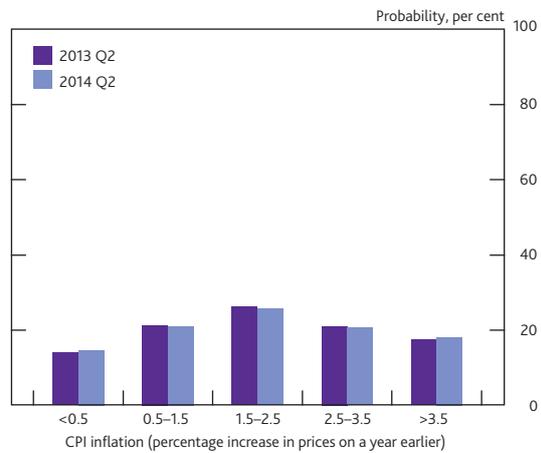
The range of views among Committee members over the outlook for inflation is wider than usual. In the current uncertain environment, modest differences in judgements regarding the factors described above can have a material impact on the outlook. The Committee's best collective judgement is that, assuming Bank Rate moves in line with

**Chart 5.5** An indicator of the probability inflation will be above the target



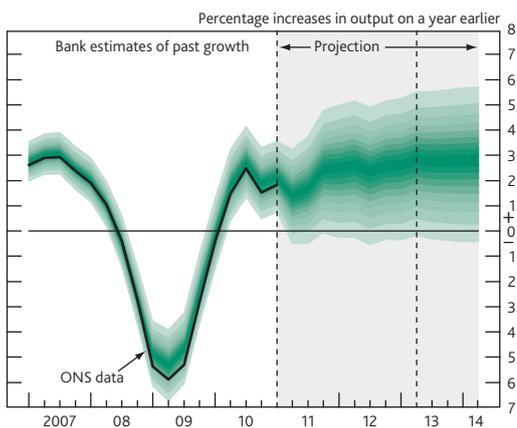
The May and February swathes in this chart are derived from the same distributions as **Charts 5.1** and **5.4** respectively. They indicate the assessed probability of inflation being above target in each quarter of the forecast period. The width of the swathe at each point in time corresponds to the width of the band of the fan chart in which the target falls in that quarter, or, if the target falls outside the coloured area of the fan chart, the width of the band closest to the target. The bands in the fan chart illustrate the MPC's best collective judgement that inflation will fall within a given range. The swathes in **Chart 5.5** show the probability within the entire band of the corresponding fan chart of inflation being close to target; the swathes should not therefore be interpreted as a confidence interval. The dashed line is drawn at the two-year point of the May projection. The two-year point of the February projection was one quarter earlier.

**Chart 5.6** Frequency distribution of CPI inflation based on market interest rate expectations and £200 billion asset purchases<sup>(a)</sup>



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

**Chart 5.7** GDP projection based on market interest rate expectations and £200 billion asset purchases

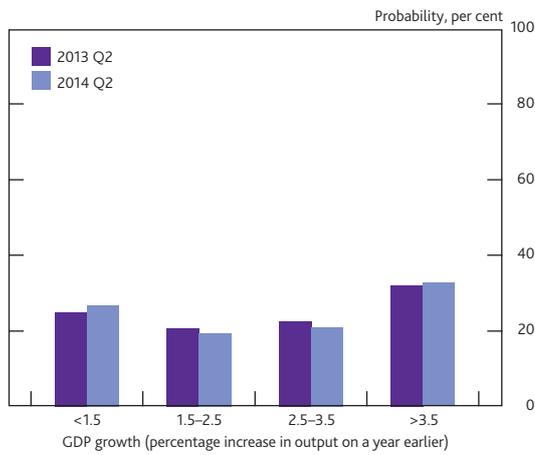


The fan chart depicts the probability of various outcomes for GDP growth. It has been conditioned on the assumption that the stock of purchased assets financed by the issuance of central bank reserves remains at £200 billion throughout the forecast period. To the left of the first vertical dashed line, 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 5.7**, the probabilities in the lower bands are slightly larger than those in the upper bands at Years 1, 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.

market interest rates, the chances of inflation being above or below the target are, as in February, broadly equal in the medium term (**Chart 5.5**). Although the most likely outcome for inflation is a little higher than in the February *Report* in the second half of the forecast period, the upside skew around the mostly likely path is judged to be smaller than in February, so that the average outcome, taking into account the balance of risks, is little changed. The inflation projection implies that there is a roughly three-in-four chance that inflation will be at least half a percentage point away from the target in the medium term, but with roughly equal probabilities to the upside and downside (**Chart 5.6**).

**Chart 5.7** shows the outlook for real GDP growth, also on the assumption that Bank Rate follows a path implied by market interest rates. Abstracting from the volatility associated with heavy snow last December, output appears to have been broadly flat over the past two quarters. The reasons for that moderation in growth, and therefore its likely persistence, are uncertain. But some of the weakness stemmed from a large fall in construction output, which is unlikely to be repeated in subsequent quarters, and business surveys remain consistent with some near-term expansion in activity. And those surveys and the growth in employment over recent months suggest that underlying activity may have been stronger than indicated by official output data. The Committee's central judgement is that some pickup in underlying growth is likely during 2011 — albeit less than judged probable in February — driven by a continuing recovery in business investment and a positive contribution from net exports. But temporary factors, such as the effects of the additional bank holiday associated with the royal wedding and supply chain disruption from the Japanese earthquake and tsunami, are likely to add some volatility to

**Chart 5.8** Frequency distribution of GDP growth based on market interest rate expectations and £200 billion asset purchases<sup>(a)</sup>



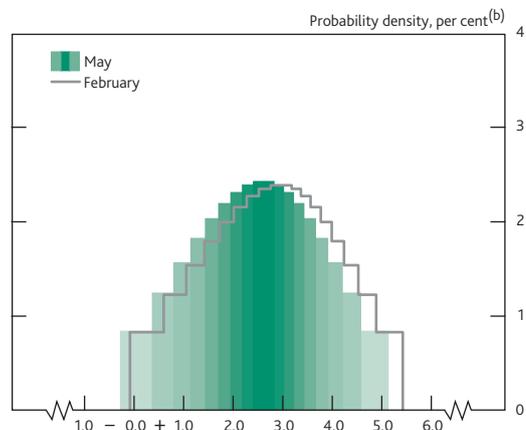
(a) These figures are derived from the same distribution as Chart 5.7. They represent the probabilities that the MPC assigns to GDP growth lying within a particular range at a specified time in the future.

quarterly GDP growth over the coming quarters (Section 3 box).

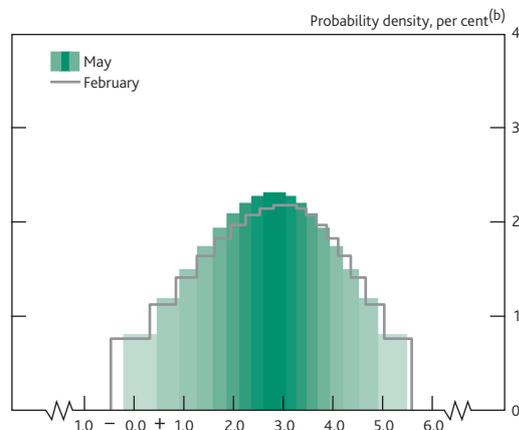
There remain substantial uncertainties, and a wider than usual range of views among Committee members, regarding the outlook for growth. Households may have much further to adjust to the significant squeeze in their real incomes. In that case growth could remain sluggish. There is also uncertainty over the extent to which net exports will support growth, and the pace at which that support will materialise. But the corporate sector continues to run a substantial financial surplus: that suggests there is scope for higher investment spending, or possibly greater support to consumption, if more of the surplus were to be distributed to households. Overall, the Committee’s best collective judgement is that by the second half of the forecast period, the chances of four-quarter growth being either above or below its historical average rate are broadly equal (Chart 5.8). The most likely outcome for growth in the medium term is somewhat weaker than in the February Report, reflecting a more gradual recovery in consumption and a less pronounced boost from net exports. But the downside skew around that most likely outcome is judged to be smaller than in February, so that from the two-year point of the forecast onwards, the average outcome, taking into account the balance of risks, is broadly unchanged. Charts 5.9 and 5.10 show the spread of outcomes for GDP growth one and two years ahead.

The downside skew around the projection for growth, associated with an even weaker recovery in consumption or a slower boost from net trade, also points to downside risks to the outlook for inflation. But they are more than offset by other risks, discussed above, that would imply higher inflation for a given level of output, such as the possibility of further

**Chart 5.9** Projected probabilities of GDP growth in 2012 Q2 (central 90% of the distribution)<sup>(a)</sup>



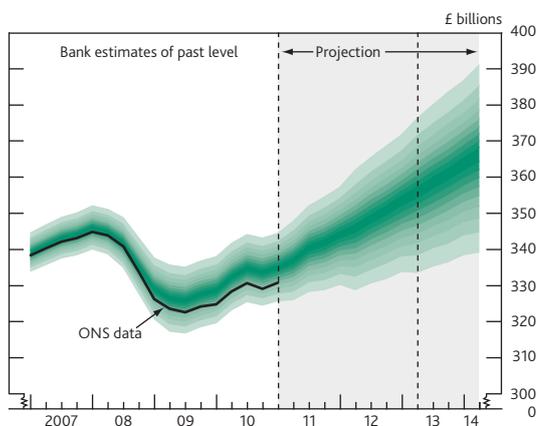
**Chart 5.10** Projected probabilities of GDP growth in 2013 Q2 (central 90% of the distribution)<sup>(a)</sup>



(a) Charts 5.9 and 5.10 represent cross-sections of the GDP growth fan chart in 2012 Q2 and 2013 Q2 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 remains at £200 billion 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 GDP growth in 2012 Q2 and 2013 Q2 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 5.9 and 5.10 represent the corresponding cross-sections of the February 2011 Inflation Report fan chart, which was conditioned on the same assumption about the stock of purchased assets financed by the issuance of central bank reserves.

(b) Average probability within each band; the figures on the y-axis indicate the probability of growth being within  $\pm 0.05$  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 5.11** Projection of the level of GDP based on market interest rate expectations and £200 billion asset purchases



Chained-volume measure (reference year 2006). See the footnote to **Chart 5.7** 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 5.7**. 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.

rises in commodity prices, or of a drift up in inflation expectations. That is why the risks around the most likely outcome for inflation are weighted a little to the upside, despite the downside risks to growth.

The projection for growth implies a lower level of GDP (**Chart 5.11**) than was judged probable in February. Given the observed weakness in productivity over recent quarters, the Committee judges that the outlook for productivity, and so for the supply capacity of the economy, is also weaker than in February. The Committee continues to judge it likely that some margin of spare capacity, although diminishing, will persist throughout the forecast period.

## 5.2 Key judgements and risks

### How much will external price pressures push up on UK inflation?

External price pressures, including substantial increases in commodity prices, have placed significant upward pressure on UK inflation in recent years. And developments in oil and gas markets since the February *Report* are likely to put further upward pressure on CPI inflation in coming months. The path of UK inflation will continue to be sensitive to the evolution of commodity and energy prices throughout the forecast period.

The Committee's central forecast is conditioned on futures prices for commodities, which point to stable or gradually falling prices over the forecast period. But there is substantial uncertainty around that outlook. Some of the commodity price increases — for example, the 25% rise in the oil price since February — predominantly reflected supply factors. If those constraints ease, prices could fall back more sharply. But there are also upside risks to commodity price inflation, and global inflationary pressure more generally. Continued robust growth in emerging economies, or an intensification of political instability in key oil-producing regions, may put further upward pressure on the prices of energy or other raw materials, and so on global trade prices. Overall, the Committee judges that throughout the forecast period, the risks around the outlook for commodity prices, and so for UK import prices, are skewed to the upside.

Even in the absence of further increases in global prices, there is an additional upside risk to UK inflation from external price pressures. The Committee's central judgement is that most of the impact on inflation of the depreciation of sterling of around a quarter since mid-2007 has now taken place. But there is a risk that there is further upward pressure still to come.

### How much spare capacity is there within companies, and how will productivity evolve?

Offsetting the near-term upward pressure on inflation from higher commodity prices, spare capacity — both within the

## Financial and energy market assumptions

As a benchmark assumption, the projections for CPI inflation and GDP growth described in **Charts 5.1** and **5.7** are conditioned on a path for Bank Rate implied by market interest rates (**Table 1**). In the period leading up to the MPC's May decision, the path implied by forward market interest rates was for Bank Rate to rise to 0.8%, on average, in 2011 Q4. Bank Rate was assumed to continue to rise thereafter. The path for Bank Rate at the time of the *May Report* was 0.3 percentage points lower, on average, than that assumed in the *February Report*.

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

	2011			2012				2013				2014	
	Q2 <sup>(b)</sup>	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
May	0.6	0.7	0.8	1.0	1.2	1.5	1.7	2.0	2.2	2.4	2.6	2.8	3.0
February	0.7	0.8	1.0	1.2	1.5	1.8	2.1	2.3	2.6	2.8	2.9	3.1	

(a) The data are fifteen working day averages of one-day forward rates to 4 May 2011 and 9 February 2011 respectively. The curves are based on overnight index swap (OIS) rates.

(b) May figure for 2011 Q2 is an average of realised spot rates to 4 May, and forward rates thereafter.

The May projections are conditioned on an assumption that the total stock of purchased assets financed by the creation of central bank reserves remains at £200 billion throughout the forecast period, the same total scale of purchases assumed in the February projections.

The starting point for sterling's effective exchange rate index (ERI) in the MPC's projections was 79.5, the average for the

fifteen working days to 4 May. That was 1.8% below the starting point for the February projections. Under the MPC's usual convention,<sup>(1)</sup> the exchange rate is assumed to be similar in 2013 Q2, and is lower throughout the forecast period than assumed in February.

The starting point for UK equity prices in the MPC's projections was 3118 — the average of the FTSE All-Share for the fifteen working days to 4 May. That was 0.8% above the starting point for the February projection. In the long run, equity wealth is assumed to grow in line with nominal GDP; in the short run, it also reflects changes in the share of profits in GDP.

Energy prices are assumed to evolve broadly in line with the paths implied by futures markets over the forecast period. Average Brent oil futures prices for the next three years were around 16% higher (in US dollar terms) than at the time of the *February Report*. Wholesale gas futures prices were around 18% higher over the forecast period. The May projections for CPI inflation are conditioned on a benchmark assumption of around a 15% rise in domestic gas prices and a 10% rise in domestic electricity prices during the second half of 2011 and first quarter of 2012. That compares with an assumption of a 5% increase in domestic gas prices in 2011 Q4 in the February projections. As noted in Section 4, plausible alternative paths for domestic utility prices would have a significant impact on inflation.

(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.

labour market and within companies — should continue to weigh on prices. The degree of spare capacity within companies, and its likely evolution, depends crucially on the path of underlying productivity.

Labour productivity is currently substantially below the level implied by a continuation of its pre-recession trend. If much of that shortfall is cyclical in nature, perhaps reflecting some businesses retaining staff in anticipation of a recovery in demand, then there should be substantial spare capacity within companies. But surveys of businesses point to a more limited margin of spare capacity (Section 3). And there has been little sign yet of any cyclical recovery in productivity — indeed, it appears to have weakened further over recent quarters, with employment and the total number of hours worked continuing to rise even as output growth has been subdued.

The Committee judges it likely that GDP is currently being underestimated, and that subsequent data revisions will lead

to higher estimates of current output. If that happens then productivity estimates will probably also be increased. But the revision would have to be unusually large to account for much of the current shortfall.

The Committee's central view is that some spare capacity remains within companies, but that more than half of the shortfall in productivity, relative to a continuation of its pre-recession trend, reflects a persistent weakening in the level of underlying productivity. The remaining cyclical margin of unused capacity means that some businesses could increase output at little extra cost, with an attendant rebound in productivity. But there are substantial uncertainties around this judgement.

### **Will the experience of above-target inflation put upward pressure on wages and prices?**

The presence of a margin of spare capacity should limit the cost to some companies of expanding their output, and should therefore help to moderate domestically generated inflation. But offsetting that, the sustained period of above-target inflation is likely to place some upward pressure on wages and prices, through two channels.

First, the protracted period of above-target inflation has contributed to exceptional weakness in households' real income growth (Section 2), with further falls in real disposable incomes in prospect over the first half of the forecast period as inflation remains elevated. Such a squeeze of households' purchasing power was inevitable, given the substantial increases in commodity and import prices, the weakening in productivity, and the effects of the fiscal consolidation. Nonetheless, it is likely to result in some upward pressure on nominal wages, as employees try to resist the erosion of their real incomes, or employers feel the need to raise wages in order to retain or motivate their staff.

Second, the sustained period of above-target inflation may cause expectations of inflation to drift upwards. And, to the extent that people place weight on past outturns in forming their expectations, it may then take time for inflation expectations to decline again, even as inflation itself falls back. Higher expectations of inflation could lead employers and employees to agree larger increases in wages. Or they may feed more directly into higher inflation, if companies set higher prices in anticipation of their competitors and suppliers doing likewise.

The degree to which elevated past inflation will push up wages and prices through these channels is uncertain. But the Committee judges that these effects will put some upward pressure on inflation, particularly during the first half of the forecast period, implying that countervailing downward pressure from a margin of spare capacity would be needed in order to keep inflation at the target. And the risks to inflation from such second-round effects are judged to be skewed to the upside throughout the forecast period.

### How much will labour market slack bear down on wages?

Despite elevated inflation, wage growth has, so far, remained subdued. In part, that is likely to have reflected the weakness in productivity growth. But it has probably also been linked to the substantial increase in unemployment. A key determinant of inflation in the medium term will be the degree to which persistent labour market slack continues to bear down on wages.

The path of unemployment will depend, in part, on the extent to which underlying productivity recovers. A recovery would limit companies' need to hire new staff to increase output, and would therefore imply continued slack in the labour market, exerting downward pressure on wage growth.

Even if unemployment does remain elevated, however, the drag that it exerts on wage growth is likely to diminish over time. People who have been unemployed for a long period are less able to acquire or retain the skills needed by employers. And some of the unemployed may become discouraged and so search less hard for work. If unemployment remains high, those effects are likely to become progressively more significant over the forecast period, so that the rate of unemployment consistent with inflation meeting the target would rise.

Overall, the Committee's central judgement is that wage growth is likely to pick up from its current level. Nonetheless, a persistent margin of slack is likely to cause earnings growth to remain a little below its recent historical average rate throughout the forecast period. Given the uncertainties around the forces affecting earnings, there are substantial risks in both directions around those judgements, and the Committee judges that those risks are skewed towards a weaker path for wage growth and so domestic inflationary pressure.

### How fast will private domestic demand grow?

The margin of spare capacity in the economy will depend on the path of productivity, but also, crucially, on the strength of demand. The continuing fiscal consolidation can be expected to weigh directly on demand, as growth in public consumption and investment slows. But offsetting that to some degree, a recovery in business investment appears to be under way. Business investment remains around 20% below its level at the end of 2007, and the corporate sector continues to run an unusually large financial surplus. The Committee judges that those conditions point to the recovery in business investment gathering pace, and providing a significant boost to growth throughout the forecast period.

Around two thirds of domestic demand is accounted for by household consumption, however. Consumption stagnated throughout 2010, remaining some 4% below its pre-recession

peak — the largest such shortfall at this stage of a recovery since quarterly records began in 1955. A number of factors probably contributed to that exceptional weakness, including the pronounced squeeze in households' real incomes, uncertainty regarding future incomes, and in response, some households attempting to reduce their debt levels (Section 2).

The Committee's central judgement is that consumption will remain broadly flat during the early part of the forecast period, as real disposable incomes continue to be squeezed, and households' adjustment to their lower purchasing power continues. Further ahead, consumption is likely to recover only gradually, regaining its pre-recession peak only near the end of the forecast period. But there are substantial uncertainties around that assessment, in both directions.

Consumption growth could turn out stronger, if uncertainty about future incomes declines more rapidly, or if spending receives a larger boost from the substantial corporate financial surplus, for instance if more of it is distributed in the form of higher wages or dividends. But there are also significant risks to the downside, given uncertainty about the impact of the fiscal consolidation, continuing limitations on the availability of credit, and the possibility that even less of the adjustment to lower real incomes has so far taken place. Overall, the risks around the most likely path for consumption are judged to be skewed to the downside, especially in the early part of the forecast period, when real income growth is likely to be weakest, and uncertainty about the impact of the fiscal consolidation may be most pronounced.

### **How much support will net exports provide to the recovery?**

The pace of the recovery in demand will also depend crucially on the support from net exports. UK services exports remained weak during 2010, in part reflecting continued weakness in exports of financial services. But exports of goods grew by over 10%, and the Committee judges that export growth should remain robust throughout the forecast period, as exporters continue to benefit from the global recovery and the past depreciation of sterling. Risks around the strength of global demand remain, however, in particular in the euro area, the United Kingdom's largest export market. Some euro-area periphery countries continue to face substantial challenges in improving their competitiveness and fiscal positions (Section 2). A further weakening in growth in those economies could weigh on UK demand, both through direct trade linkages, but also through effects on confidence here and in the euro area, and through financial market and banking sector linkages.

The support to the recovery from net exports will also depend on the extent to which UK import growth slows in response to the sharp increase in import prices following sterling's depreciation. The large swings in UK domestic demand, and their impact on the demand for imports, make it difficult to

isolate the effect of higher import prices with any precision. But imports appear, so far at least, to have remained stronger than might have been expected. Trade data are subject to both substantial measurement error and subsequent revision, so it is possible that imports have actually been weaker than the data currently suggest. But it is also possible that the resilience of imports reflects a present lack of suitable domestic substitutes for goods and services that are currently imported. The Committee believes that the supply of such products should increase over the forecast period, enabling more significant switching of expenditure away from imports. Together with vigorous export growth, that would mean that net exports make a substantial contribution to GDP growth throughout the forecast period. But the risks around that contribution from net exports are judged to be weighted to the downside.

### 5.3 Summary and the policy decision

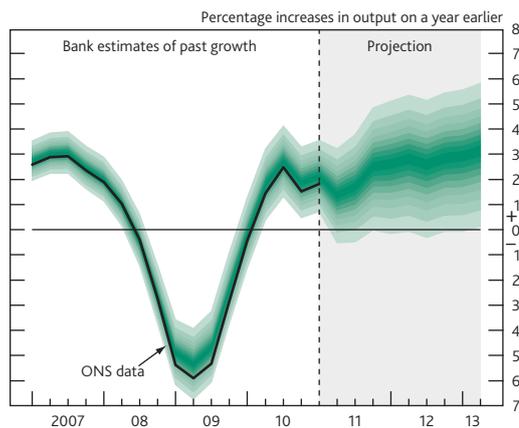
CPI inflation is expected to remain above the target throughout 2011 and 2012, given the rise in VAT and increases in import and energy prices. Inflation should fall back as the impact of the temporary factors supporting it declines, and spare capacity continues to weigh on prices and wages. But the extent of the fall in inflation will depend on the size, persistence and impact of spare capacity, and on the scale of second-round effects from the sustained period of above-target inflation. There is a high degree of uncertainty, and an unusually wide range of views among Committee members, about the strength of these various forces, and therefore around the overall outlook for inflation. The Committee's best collective judgement is that, conditioned on market interest rates, the chances of inflation being either above or below the target are broadly equal in the medium term.

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%. Under that assumption for monetary policy, inflation is more likely to be above the target than below it at the two-year point.

In evaluating the outlook for inflation, the Committee will focus on: measures of inflation expectations, and their impact on prices and wages; evidence regarding the evolution of potential supply and spare capacity, including the outturns for employment and investment; and indicators of global inflationary pressure.

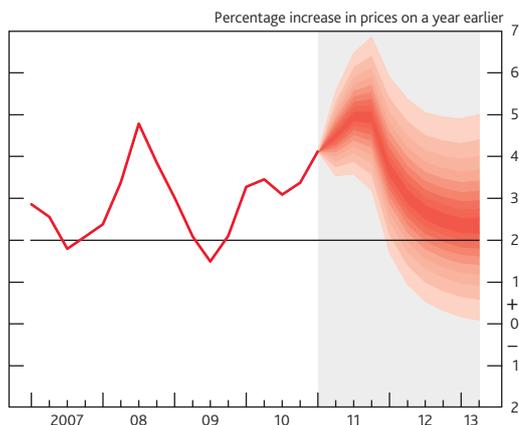
In evaluating the outlook for growth, the Committee will focus on indicators of: the extent to which the recent slowing in growth is temporary; the likely path of household consumption and saving; and the degree to which both exports and imports are responding to the past depreciation of sterling.

**Chart 5.12** GDP projection based on constant nominal interest rates at 0.5% and £200 billion asset purchases



See footnote to Chart 5.7.

**Chart 5.13** CPI inflation projection based on constant nominal interest rates at 0.5% and £200 billion asset purchases



See footnote to Chart 5.1.

At its May meeting, the Committee judged that the pace of recovery was more likely than not to pick up from its recent soft patch. The near-term outlook for inflation had worsened further, primarily reflecting renewed increases in energy prices. But under the assumption that Bank Rate rose in line with market yields, inflation was still likely to fall back in the medium term, as the temporary impacts of the factors currently raising inflation diminished and some downward pressure from a margin of spare capacity persisted. In the light of that outlook, the Committee judged it appropriate at that meeting to maintain Bank Rate at 0.5% and the stock of purchased assets at £200 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 April. On average, CPI inflation was expected to fall back to 2.1% by 2012 Q2 and to remain slightly above the 2% target over the following two years (Table 1). Those expectations were marginally higher than three months earlier. And the dispersion of central views about CPI inflation one year ahead was wider than three months earlier (Chart A). But the distribution of views about inflation three years ahead was little changed.

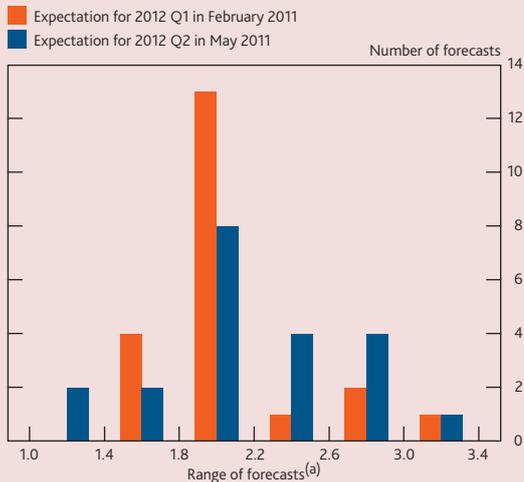
**Table 1** Averages of other forecasters' central projections<sup>(a)</sup>

	2012 Q2	2013 Q2	2014 Q2
CPI inflation <sup>(b)</sup>	2.1	2.1	2.2
GDP growth <sup>(c)</sup>	2.1	2.5	2.5
Bank Rate (per cent)	1.4	2.5	3.4
Sterling ERI <sup>(d)</sup>	81.6	82.4	82.9

Source: Projections of outside forecasters as of 27 April 2011.

- (a) For 2012 Q2, there were 21 forecasts for CPI inflation and GDP growth, 19 for Bank Rate and 15 for the sterling ERI. For 2013 Q2 and 2014 Q2 there were 17 forecasts for CPI inflation and GDP growth, 16 for Bank Rate and 13 for the sterling ERI.  
 (b) Twelve-month rate.  
 (c) Four-quarter percentage change.  
 (d) Where necessary, responses were adjusted to take account of the difference between the old and new ERI measures, based on the comparative outturns for 2006 Q1.

**Chart A** Distribution of CPI inflation central projections one year ahead



Sources: Projections of 21 outside forecasters as of 31 January 2011 and 21 outside forecasters as of 27 April 2011.

- (a) A projection that is on the boundary of these ranges is classified in the higher bucket. For example, a 1.8% projection is included within the 1.8% to 2.2% bucket.

On average, forecasters expected four-quarter GDP growth to be 2.1% at the one-year horizon, rising to 2.5% in 2014 Q2. These averages were similar to those in February.

Almost all forecasters expected Bank Rate to have risen by 2012 Q2, with further increases predicted over the following

two years. On average, the sterling ERI was projected to appreciate gradually over the next three years.

The Bank also asks forecasters for an assessment of the risks around their central projections for CPI inflation and GDP growth (Table 2). On average, respondents judged that inflation was slightly more likely to be above the target than to be below it throughout the next three years. Over recent quarters there has been an increase in the average probability attached to inflation being above 3% three years ahead, despite relatively little change in the average central projection (Chart B). The average probability of growth one year ahead being above 2% was slightly higher than three months earlier, but the probability distribution for growth beyond that was little changed.

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

CPI inflation Probability, per cent	Range:						
	<0%	0–1%	1–1.5%	1.5–2%	2–2.5%	2.5–3%	>3%
2012 Q2	2	6	13	24	24	20	12
2013 Q2	3	7	13	23	23	16	15
2014 Q2	2	7	13	22	24	17	15

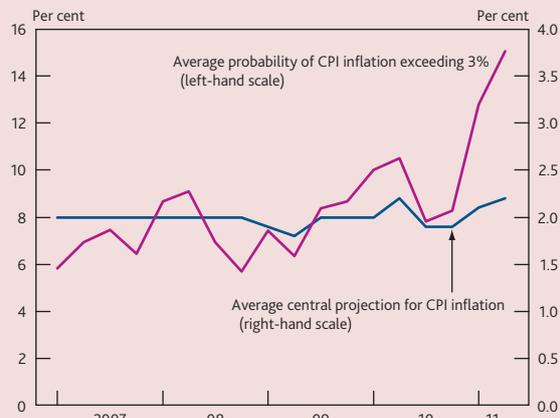
### GDP growth

Probability, per cent	Range:					
	<-1%	-1–0%	0–1%	1–2%	2–3%	>3%
2012 Q2	2	6	15	28	31	18
2013 Q2	3	6	13	23	31	25
2014 Q2	2	6	12	21	31	28

Source: Projections of outside forecasters as of 27 April 2011.

- (a) For 2012 Q2, 21 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 Q2 and 2014 Q2, 17 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 central projections for CPI inflation and probability of CPI inflation exceeding 3% three years ahead



Sources: Projections of outside forecasters provided for *Inflation Reports* between February 2007 and May 2011.

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**Text of Bank of England press notice of 10 March 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 23 March.

**Text of Bank of England press notice of 7 April 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 20 April.

**Text of Bank of England press notice of 5 May 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 Committee's latest inflation and output projections will appear in the *Inflation Report* to be published at 10.30 am on Wednesday 11 May.

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

# 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.

**ERI** – exchange rate index.

**GDP** – gross domestic product.

**LFS** – Labour Force Survey.

**Libor** – London interbank offered rate.

**M4** – UK non-bank, non-building society private sector's holdings of sterling notes and coin, and their sterling deposits (including certificates of deposit, holdings of commercial paper and other short-term instruments and claims arising from repos) held at UK banks and building societies.

**OIS** – overnight index swap.

**RMBS** – residential mortgage-backed security.

**RPI** – retail prices index.

**RPI inflation** – inflation measured by the retail prices index.

## Abbreviations

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

**BCC** – British Chambers of Commerce.

**CBI** – Confederation of British Industry.

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

**ECB** – European Central Bank.

**EU** – European Union.

**FTSE** – Financial Times Stock Exchange.

**G7** – Canada, France, Germany, Italy, Japan, the United Kingdom and the United States.

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

**IMF** – International Monetary Fund.

**LTV** – loan to value.

**MPC** – Monetary Policy Committee.

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

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

**OBR** – Office for Budget Responsibility.

**OECD** – Organisation for Economic Co-operation and Development.

**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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