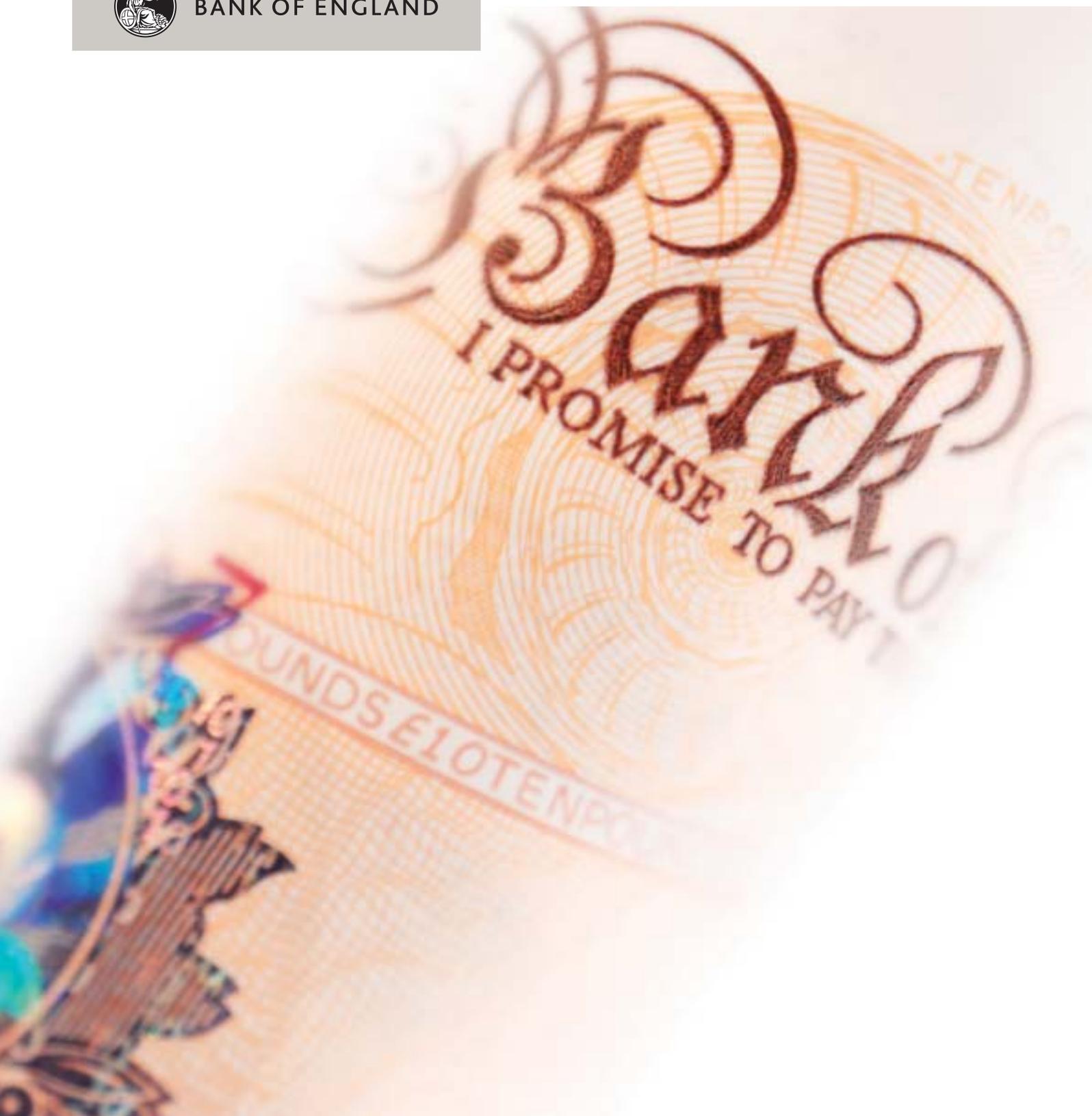


Inflation Report

August 2013



BANK OF ENGLAND





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Inflation Report

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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 economic policy, including its objectives for growth and employment.

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

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

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

The Monetary Policy Committee:

Mark Carney, Governor

Charles Bean, Deputy Governor responsible for monetary policy

Paul Tucker, Deputy Governor responsible for financial stability

Ben Broadbent

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Paul Fisher

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The Overview of this *Inflation Report* is available in PDF at www.bankofengland.co.uk/publications/Documents/inflationreport/2013/ir13augo.pdf.

The entire *Report* is available in PDF at www.bankofengland.co.uk/publications/Pages/inflationreport/2013/ir1303.aspx.

PowerPoint™ versions of the charts in this *Report* and the data underlying most of the charts are provided at www.bankofengland.co.uk/publications/Pages/inflationreport/2013/ir1303.aspx.

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Overview

In the United Kingdom, a recovery appears to be taking hold. But the legacy of adjustment and repair left by the financial crisis means that the recovery is likely to remain weak by historical standards. CPI inflation rose to 2.9% in June and looks set to remain around that rate in the near term.

Against that backdrop, the Committee has provided some explicit guidance regarding the future conduct of monetary policy. The MPC intends at a minimum to maintain the present highly stimulative stance of monetary policy until economic slack has been substantially reduced, provided this does not entail material risks to price stability or financial stability.

In the Committee's view, a sustained recovery in both demand and supply appears likely. The outlook for growth is stronger than in May, mainly reflecting a marked improvement in business and consumer sentiment. This stronger demand is assumed to be largely matched by an increase in effective supply capacity, such that the outlook for inflation is similar to May, with inflation expected to fall back to around the 2% target over the forecast period.

Trade-offs and forward guidance

A recovery appears to be taking hold. Early estimates suggest that GDP increased by almost 1% in the first half of 2013. That is below the pace of growth needed to make material in-roads into the margin of slack in the economy, but is nonetheless welcome after over a year of almost no growth. Moreover, business surveys and reports from the Bank's Agents point to a stronger near-term outlook than expected in May.

Although a recovery now looks to be under way, the prospects for the UK economy continue to be affected by past developments that have led to a sustained period of depressed demand and above-target inflation. Those developments have been accompanied by exceptional weakness in productivity, which has fallen back to 2005 levels. That weakness may be a direct consequence of weak demand, and so may unwind as the economy recovers. But it may also reflect other restraining forces, such as the need for resources to be reallocated across different parts of the economy, which may lessen only gradually as output increases. The responsiveness of effective supply capacity to a pickup in demand is a key uncertainty facing the MPC.

CPI inflation was 2.9% in June. The elevated rate of inflation reflects, in particular, pass-through from higher import costs and an unusually high contribution from administered and regulated prices. The MPC's remit makes clear that its primary objective is price stability, as defined by the 2% target for

CPI inflation. The remit also recognises that, in situations such as now, when inflation is above the target but demand is weak, the Committee faces a trade-off between the speed with which it attempts to return inflation to the target and the support it is able to provide to activity.

The scale of recent shocks, and the difficulty in knowing how effective supply capacity will respond as demand picks up, means that this trade-off is, at present, unusually uncertain. And misjudging that trade-off could give rise to significant costs in the medium term. Attempting to return inflation to the target too quickly risks prolonging the period over which the nation's resources are underutilised. That, in turn, might also erode the longer-term supply capacity of the UK economy. But returning inflation to the target too slowly might cause people to question the MPC's commitment to keep inflation close to the target and lead medium-term expectations of inflation to be less well anchored. Such a loss of credibility would make it more costly to keep inflation close to target.

The MPC's explicit policy guidance (see the box on page 7) provides greater clarity on how it views this trade-off and about the future path of monetary policy as the economy recovers. It also provides a robust framework within which the MPC can explore the scope for economic expansion without putting price stability and financial stability at risk.

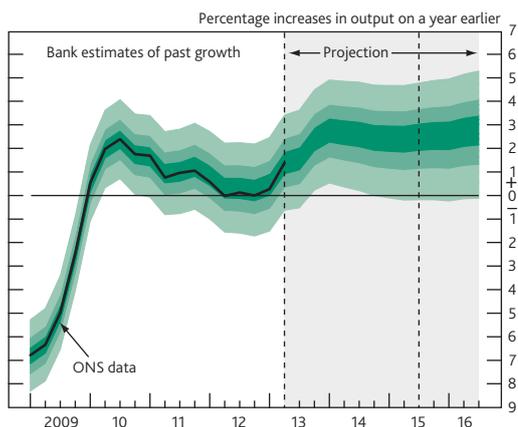
Economic outlook

Short-term market interest rates have risen since May and, in the Committee's best collective judgement, imply a faster withdrawal of monetary stimulus than appears likely given the current economic outlook. The projections below are based on the assumption that Bank Rate remains at 0.5% over the forecast period, rather than the usual market curve assumption. That does not reflect the Committee's view of the most likely path of Bank Rate. Rather it provides a convenient reference point against which to assess the economic outlook.

On that basis, and assuming that the size of the asset purchase programme stays at £375 billion, the incipient recovery is likely to gather pace over the forecast period (**Chart 1**). This pickup in growth is supported by: a moderate but persistent expansion in global demand; the sustained stimulus from monetary policy; a further easing in credit conditions aided by the Funding for Lending Scheme and steps to increase the resilience of UK banks and building societies; and a gradual fading of the impact of the financial crisis on household and business spending. Even so, the legacy of adjustments left by the financial crisis means that the recovery is likely to remain weak by historical standards.

The outlook for growth is stronger than in May. That largely reflects the unexpectedly strong tone of recent domestic data, including the marked improvement in business and consumer sentiment. It also reflects the judgement that the forward guidance announced by the Committee may make its current

Chart 1 GDP projection based on constant nominal interest rates at 0.5% and £375 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 £375 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 30 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 30 occasions. In any particular quarter of the forecast period, GDP growth 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 30%. The distribution of that 30% 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.

The MPC's policy guidance

The Committee intends at a minimum to maintain the current highly stimulative stance of monetary policy until economic slack has been substantially reduced, provided this does not entail material risks to either price stability or to financial stability.

In particular, the MPC intends not to raise Bank Rate from its current level of 0.5% at least until the Labour Force Survey headline measure of the unemployment rate has fallen to a threshold of 7%, subject to the conditions below.

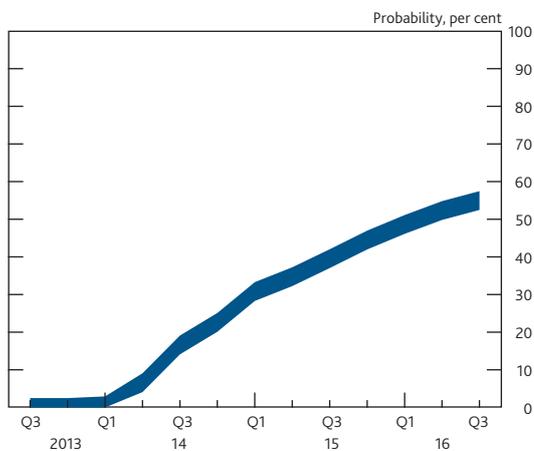
The MPC stands ready to undertake further asset purchases while the unemployment rate remains above 7% if it judges that additional monetary stimulus is warranted. But until the unemployment threshold is reached, and subject to the conditions below, the MPC intends not to reduce the stock of asset purchases financed by the issuance of central bank reserves and, consistent with that, intends to reinvest the cash flows associated with all maturing gilts held in the Asset Purchase Facility.

The guidance linking Bank Rate and asset sales to the unemployment threshold would cease to hold if any of the following three 'knockouts' were breached:

- in the MPC's view, it is more likely than not, that CPI inflation 18 to 24 months ahead will be 0.5 percentage points or more above the 2% target;
- medium-term inflation expectations no longer remain sufficiently well anchored;
- the Financial Policy Committee (FPC) judges that the stance of monetary policy poses a significant threat to financial stability that cannot be contained by the substantial range of mitigating policy actions available to the FPC, the Financial Conduct Authority and the Prudential Regulation Authority in a way consistent with their objectives.

The Committee will continue to set the level of Bank Rate and the size of the asset purchase programme each month, taking these criteria into account. The action taken by the MPC if any of these knockouts were breached would depend upon its assessment at the time as to the appropriate setting of monetary policy in order to fulfil its remit to deliver price stability. There is therefore no presumption that breaching any of these knockouts would lead to an immediate increase in Bank Rate or sale of assets.

Chart 2 Cumulative probability of unemployment having fallen below the 7% threshold



The swathe in this chart is derived from the same distribution as Chart 5.10. The swathe shows the probability that unemployment has fallen below 7% by each quarter of the forecast period. The 5 percentage points width of the swathe reflects the fact that there is uncertainty about the precise probability in any given quarter, but it should not be interpreted as a confidence interval.

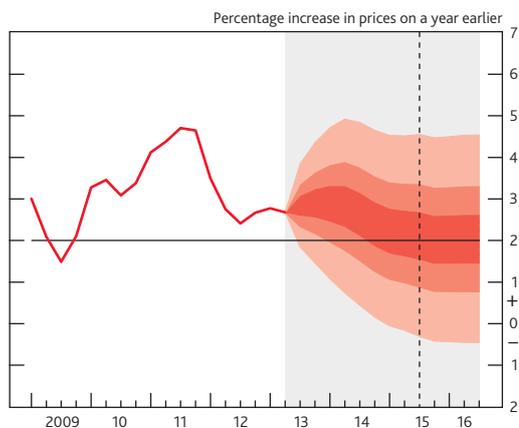
monetary stimulus more effective, in part by providing greater clarity about the conditions under which the highly stimulative stance of policy will be maintained.

The main risks to the domestic recovery continue to emanate from abroad. In particular, the necessary adjustments to indebtedness and competitiveness within the euro area may yet occur in a disorderly fashion. Domestically, the strength and sustainability of the recovery will rest on: whether recent improvements in sentiment and credit conditions persist; the impact of the fiscal consolidation; and the scope for supply capacity to increase in line with demand.

The pace at which unemployment will fall over the forecast period is highly uncertain, as it depends not only on demand and on labour force participation but also on productivity: the greater the revival in productivity as output increases, the less rapidly will unemployment fall and *vice versa*. There is a range of views on the MPC about the factors responsible for the recent weakness in productivity, and hence about the likely response of productivity to an increase in demand. The MPC's best collective view is that the unemployment rate is as likely to reach the 7% threshold before the forecast horizon as after it (Chart 2).

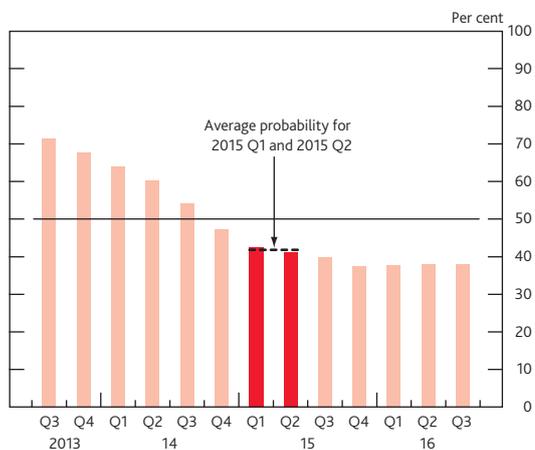
Chart 3 shows the Committee's best collective judgement of the outlook for inflation, based on the same assumptions as

Chart 3 CPI inflation projection based on constant nominal interest rates at 0.5% and £375 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 £375 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 30 of those occasions. The fan chart is constructed so that outcomes of inflation are also expected to lie within each pair of the lighter red areas on 30 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 30%. The distribution of that 30% 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 upper bands are the same as those in the lower bands at Years 1, 2 and 3. See the box on pages 48–49 of the May 2002 *Inflation Report* for a fuller description of the fan chart and what it represents. The dashed line is drawn at the two-year point.

Chart 4 Probability that CPI inflation will be at or above the 2.5% knockout



The bars in this chart are derived from the same distribution as Chart 3. The bars indicate the assessed probability of inflation being at or above 2.5% in each quarter of the forecast period. The dashed line shows the average of the probabilities in 2015 Q1 and 2015 Q2, consistent with the 18 to 24-month period in the MPC's price stability knockout.

Chart 1. CPI inflation is likely to remain close to 3% in the near term, reflecting the impact of past increases in import prices and the persistent contribution from administered and regulated prices. Inflation is likely to fall back to around the 2% target over the forecast period as external price pressures fade. And a gradual moderation in domestic cost pressures, aided by a revival in productivity growth, should help to offset the sustained contribution from administered and regulated prices. The outlook for inflation is similar to May, since the stronger demand outlook is assumed to be largely matched by a faster expansion in effective supply capacity.

The outlook for inflation remains highly uncertain. The path of inflation will depend on the extent to which productivity picks up as demand accelerates, and on the degree to which companies' profit margins are restored and whether that is through higher prices rather than lower cost growth. As ever, inflation will also be sensitive to sharp movements in both the exchange rate and commodity prices. There remains a range of views among Committee members regarding the relative strength of these different factors.

The Committee's best collective judgement is that the average probability of inflation 18 to 24 months ahead being at or above the 2.5% knockout is less than 50% (Chart 4). By the second half of the forecast period, the risks around the 2% inflation target are judged to be broadly balanced.

The policy decision

A recovery appears to be under way, although its strength and sustainability remain unclear. Inflation remains well above the target, but seems likely to fall back to around the 2% target in the latter half of the forecast period. The exceptional weakness in productivity means that there is considerable uncertainty about the supply capacity of the economy as demand recovers. As a result, the trade-off between the horizon over which inflation returns to the target and the speed with which output and employment recover is unusually uncertain. Misjudging that trade-off could have significant costs in the medium term.

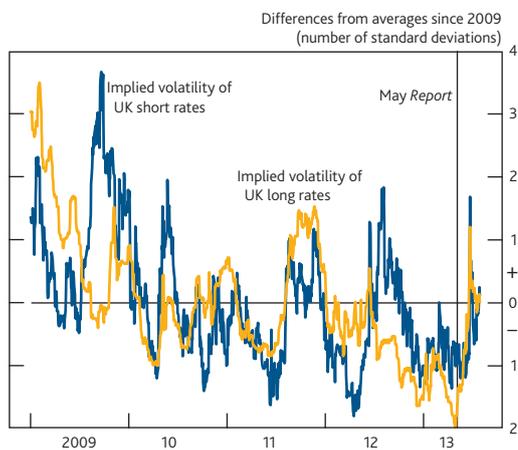
In these unprecedented circumstances, explicit policy guidance can enhance the effectiveness of monetary stimulus in three ways. It provides greater clarity regarding the MPC's view of the appropriate trade-off between the speed with which inflation is returned to the target and the support given to the recovery. It reduces uncertainty about the future path of monetary policy as the economy recovers. And it delivers a robust framework within which the MPC can explore the scope for economic expansion without putting price stability and financial stability at risk.

At its August meeting, in the light of both the economic outlook and these considerations, the MPC voted to maintain Bank Rate at 0.5% and the stock of asset purchases at £375 billion.

1 Money and asset prices

International asset prices have been volatile since the *May Report*. Government bond yields rose as market participants revised their expectations for monetary policy in the United States. Risky asset prices fell in June, although major equity indices, including the FTSE All-Share, have subsequently rebounded. In the United Kingdom, credit conditions continued to ease, although improvements for large companies remained more marked than for small businesses. Household demand for secured credit rose and mortgage approvals edged higher. Housing market indicators strengthened.

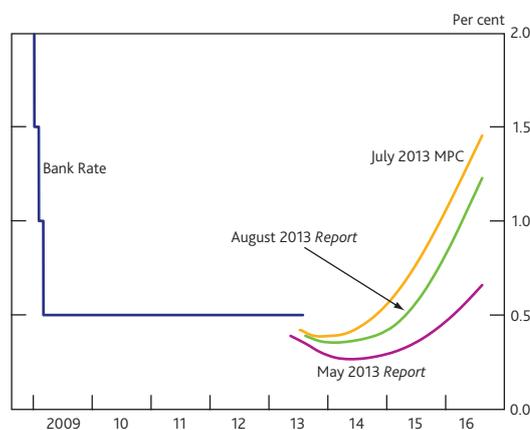
Chart 1.1 Three-month implied interest rate volatility^(a)



Sources: Barclays Live, Bloomberg and Bank calculations.

(a) Short rates refer to implied volatilities from three-month options on sterling three-month interest rate futures. Long rates refer to implied volatilities from three-month options on ten-year sterling interest rate swaps.

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



Sources: Bank of England and Bloomberg.

(a) The May 2013 and August 2013 curves are estimated using overnight index swap (OIS) rates in the fifteen working days to 8 May 2013 and 31 July 2013 respectively. The July MPC curve is estimated using OIS rates on 3 July 2013.

1.1 Monetary policy and financial markets

Asset prices have been volatile since the *May Report*, although that volatility has remained low relative to levels seen during the crisis. The implied volatility of interest rates has been particularly pronounced (**Chart 1.1**). Risky asset prices fell internationally in June, although advanced-economy equity indices have since recovered. These changes in asset prices appear to have been largely driven by changing expectations of monetary policy, most notably in the United States, and were associated with comparatively small improvements in economic conditions.

Monetary policy

Monetary policy in the advanced economies remains highly stimulative. Financial market participants appear, however, to have reassessed their views as to how quickly that stimulus will be withdrawn. According to market contacts, the marked rises in short-term market interest rates in the United States, United Kingdom and euro area during June were mainly driven by the announcement by the US Federal Reserve that it would moderate the pace of its asset purchases later this year, and end purchases next year, if data for the US economy evolved broadly as expected. Interest rates had, however, already started to rise prior to this announcement following better economic data, predominantly for the United States.

The rises in short-term interest rates probably reflected both upward revisions to expected policy rates and greater uncertainty over their future path. As discussed in the box on page 10, greater uncertainty may have led to higher market rates through its effect on term premia. Subsequent communications by central banks, including the MPC's July policy statement and accompanying minutes,⁽¹⁾ were associated with some reversal of those movements.

(1) The reasons behind the MPC's decisions since the *May Report* are discussed in the box on page 17.

Interest rate expectations

The MPC monitors people's expectations of Bank Rate, which reflect their outlook for the economy and how they expect the MPC to react to new information. This box discusses recent developments in the main indicators used by the MPC to monitor Bank Rate expectations.

Measures based on asset prices, which have the benefit of being available at high frequency, are the MPC's preferred way of monitoring financial market participants' expectations.⁽¹⁾ The forward curve derived from rates on sterling overnight index swaps (OIS), an interest rate swap referencing overnight market interest rates, is thought to provide more accurate information on expectations for Bank Rate than curves based on other reference rates, such as the London interbank offered rate (Libor), because the OIS curve is less influenced by credit and liquidity risk. A forward curve based on OIS rates is, however, not a perfect measure of interest rate expectations as, in common with other yield curves, it contains term premia — the compensation that investors require for the risk associated with future interest rate changes — which vary over time. Overnight rates may also be affected by technical market factors unrelated to policy expectations.

A second way of gauging interest rate expectations is to look at surveys of professional forecasters. Survey-based measures have the benefit of not being subject to credit risk, liquidity risk or term premia. They are, however, based on a small number of forecasters. Surveys are also less timely than market rates so cannot be used to monitor daily changes.

Over the past year, OIS rates and professional forecasters' expectations have moved very differently. **Chart A** shows the date at which forward OIS rates reach 0.75% against the median of economists' expectations for the timing of the first rise in Bank Rate. The two measures converged in June as forward OIS rates rose (**Chart 1.1**). They have since diverged, with OIS rates reaching 0.75% in late 2015 but economists expecting a rise earlier in the year.

OIS rates may have been more volatile than survey-based measures in recent months because of uncertainty about the

Chart A Indicators of when Bank Rate is expected to have risen



Sources: Bloomberg, Reuters and Bank calculations.

- (a) Series is calculated as the first date at which one-month forward OIS rates equal or exceed 0.75%.
 (b) Reuters poll shows the median of economists' expectations of the first rise in Bank Rate. This is based on a survey of economists' responses to the question: 'When do you expect the Bank of England to change rates next?'.

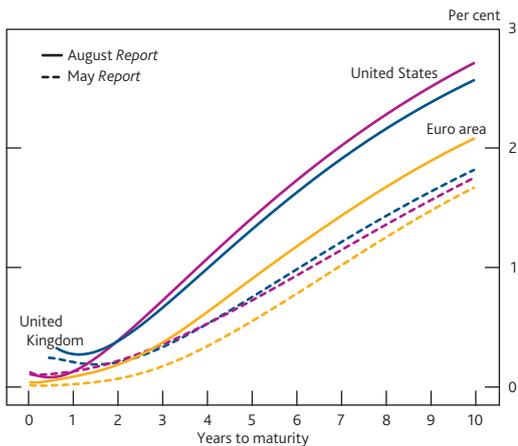
outlook for monetary policy. That uncertainty may have affected the interpretation of OIS rates in two ways. Increased uncertainty about monetary policy may have led to changes in term premia, meaning that movements in OIS rates may not have entirely reflected changes in expected policy rates.

Moreover, interpretation of OIS rates may have been further complicated by the interaction of increased policy uncertainty with the proximity of the lower bound for interest rates. Forward OIS rates reflect mean expectations of market participants. With rates near the zero lower bound, the perceived distribution of possible outcomes around OIS rates is unlikely to be symmetric: the mean of the distribution is likely to lie above the mode (the most likely outcome). And when uncertainty rises, mean expectations are likely to increase by more than modal expectations. That may be another reason why recent increases in forward OIS rates may not have fully reflected changes in the most likely date by which Bank Rate is expected to have risen.

(1) For more details about how information about Bank Rate expectations is derived from financial market prices, see Joyce, M, Sorensen, S and Weeken, O (2008), 'Recent advances in extracting policy-relevant information from market interest rates', *Bank of England Quarterly Bulletin*, Vol. 48, No. 2, pages 157–66.

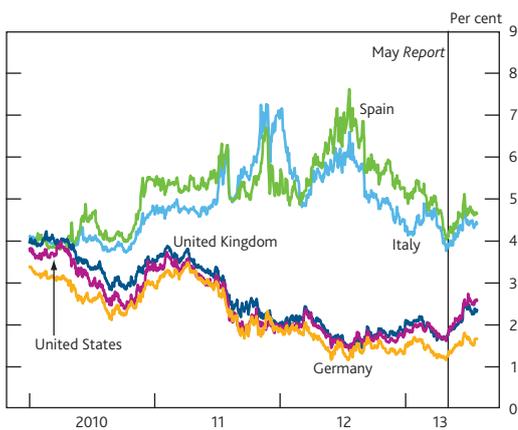
Market-implied paths for policy rates over the next three years in the United Kingdom (**Chart 1.2**), the United States and the euro area, however, remain higher than at the time of the *May Report*.

In the run-up to the MPC's August meeting, the market-implied path of Bank Rate was somewhat steeper than in the run-up to the *May Report*, with the first rise in Bank Rate expected in late 2015 compared to late 2016 in *May* (**Chart 1.2**). As discussed in the box on page 10, surveys of

Chart 1.3 International forward interest rates^(a)

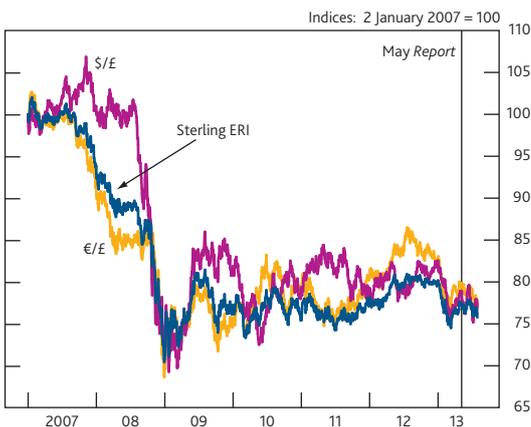
Sources: Bank of England and Bloomberg.

(a) The May 2013 and August 2013 curves are estimated using instantaneous forward nominal sovereign bond yields in the fifteen working days to 8 May 2013 and 31 July 2013 respectively.

Chart 1.4 Selected ten-year government bond yields^(a)

Source: Bloomberg.

(a) Yields to maturity on ten-year benchmark government bonds.

Chart 1.5 Sterling exchange rates

economists have shown less variation than market-based measures: the median expectation for economists polled by Reuters in late July was broadly unchanged to that at the time of the *May Report*, with economists continuing to expect no change in Bank Rate until 2015 Q2.

Government bond yields

Alongside the higher implied paths for short-term policy rates, longer-dated forward interest rates based on UK, US and euro-area government bond yields have also risen (**Chart 1.3**).

Although the initial increases in UK and euro-area short-term interest rates appeared unwarranted given economic news, the fact that rises in longer-term yields were synchronised across countries (**Chart 1.4**) is less puzzling: historically, advanced-economy bond yields have tended to move together as investors see these assets as close substitutes for one another. These longer-term yields reflect a variety of influences including growth and inflation expectations, as well as premia to compensate investors for uncertainty about the path of future interest rates and the risk of default. It is difficult to separate out those different influences but, according to market contacts, there has been some increase in term premia on longer-term bonds as uncertainty about the future path of monetary policy increased. In addition, investors may also be starting to revise up their views of the longer-term prospects for growth. The rise in UK nominal yields was largely accounted for by higher real rates, rather than higher expected inflation (Section 4).

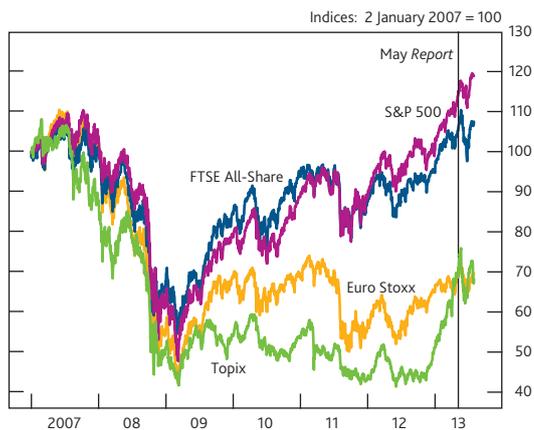
Periphery euro-area sovereign bond yields have risen only modestly relative to yields on German bunds over the past three months and have been fairly resilient to marked changes in other riskier asset prices. Relative to yields on bunds, yields on Italian and Spanish bonds were only a few basis points higher in the run-up to the *August Report* than at the time of the *May Report* (**Chart 1.4**).

Exchange rates

Having been broadly stable until the beginning of July, the sterling effective exchange rate (ERI) depreciated slightly following the MPC's July statement, leaving it 0.6% lower than at the time of the *May Report* (**Chart 1.5**). The change over the past three months reflected a 1% fall in sterling against the US dollar, and a 1.7% fall against the euro, possibly due to relative changes in expectations for the monetary policy outlook in those regions.

Equities and corporate bonds

The FTSE All-Share index was 3.2% higher in the run-up to the *August Report* than at the time of the *May Report* (**Chart 1.6**). Risky asset prices have been volatile over the past three months, however. Equity indices fell over June, but have picked up since the beginning of July.

Chart 1.6 International equity prices^(a)

Source: Thomson Reuters Datastream.

(a) Indices in local currency terms.

Table 1.A PNFCs' net external finance raised^(a)

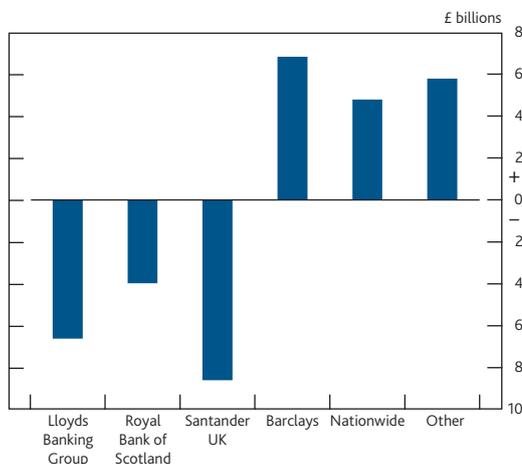
£ billions	Quarterly averages				2013 Q1	2013 Q2
	2003-08	2009-11	2012 H1	2012 H2		
Loans	11.5	-6.8	-5.4	-3.7	-2.8	-6.4
Bonds ^{(b)(c)}	3.4	2.4	5.2	4.5	7.9	4.7
Equities ^(b)	-2.1	2.5	-2.4	-1.6	0.9	-2.7
Commercial paper ^(b)	0.0	-0.5	-0.1	-0.2	0.4	0.7
Total ^(d)	12.7	-2.3	-3.4	0.0	7.4	-4.9

(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 1.7 Net lending by FLS participants^(a)(a) Data show cumulative net lending flows to UK households and PNFCs between 30 June 2012 and 31 March 2013 based on the Funding for Lending Scheme (FLS) measure of lending. See www.bankofengland.co.uk/markets/Pages/FLS/data.aspx. Data are non seasonally adjusted.

Increases in interest rate expectations raise the rate at which investors discount future returns; all else equal, this should depress equity prices. But, since the *May Report*, there have been increases in interest rate expectations and in advanced-economy equity prices. This suggests that investors may have become more optimistic about the growth outlook and so revised up their expectations for dividend payments, as well as their expectations for interest rates.

Recent moves in riskier asset prices probably also partly reflect changes in the compensation that investors demand for taking on risk. All else equal, increases in this risk premium would push down risky asset prices. For example, assets most exposed to 'search for yield', such as emerging-economy equities, saw particularly sharp falls in prices in June; since then, prices for these assets have picked up more modestly than those for advanced-economy equities. Prices for other risky assets, such as US real estate investment trusts, have continued to fall.

The volatility in asset prices since the *May Report* has also been apparent in the UK corporate bond market, where spreads initially widened but subsequently narrowed, leaving them slightly above where they were in May. UK private non-financial corporations (PNFCs) continued to issue bonds in Q2, although issuance was weaker than in Q1 (**Table 1.A**).

1.2 The banking sector

Credit conditions, and hence economic activity, can be affected by changes in the size and composition of bank balance sheets. For example, regulatory assessments can affect banks' capital positions, which in turn can affect incentives for lending. And the outlook for bank balance sheets can have wider implications for bank funding costs, which themselves are an important influence on lending prospects. This section discusses recent influences on bank balance sheets before turning to wider developments in the cost of funding. Credit conditions are discussed in Section 1.3.

Bank balance sheets

Some banks have continued to repair their balance sheets. Although these banks are prepared to lend more to some borrowers, deliberate reductions in exposures to others have offset that, holding back aggregate net lending to households and businesses (**Chart 1.7**).

Credit conditions can be affected by banks' capital positions. Following the Financial Policy Committee's (FPC's) March statement that some UK banks needed to bolster their capital positions, the Prudential Regulation Authority (PRA) published a breakdown of the capital shortfall of the United Kingdom's eight largest banks. Five of those banks fell short of a risk-weighted capital ratio of 7% and plans for meeting that

shortfall, in a way that does not reduce lending to the real economy, were agreed with the PRA in June.

The PRA also announced that, for most banks, meeting the 7% risk-weighted capital standard is also likely to be sufficient for meeting the PRA's 3% leverage ratio, which caps the proportion of total assets to capital and acts as a backstop to risk-based capital requirements. Two institutions — Barclays and Nationwide — were, however, judged to be likely to fall short on this criterion. Plans for reaching a 3% leverage ratio, in a way that does not reduce lending to the real economy, have been agreed with the PRA.

As discussed in the box on pages 16–17 of the *May Report*, this increased capital resilience should help support credit conditions and lending growth in the medium term.

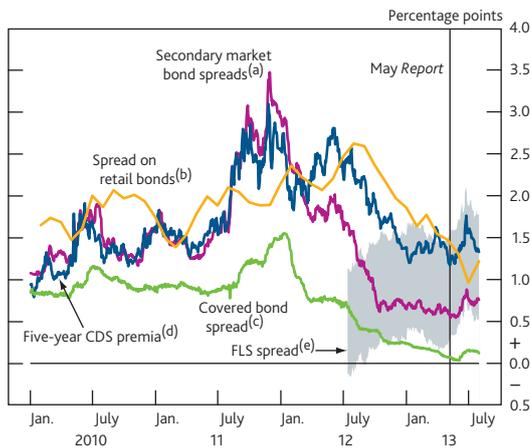
Liquidity regulation may also influence banks' lending decisions. In June, as part of the implementation of the Basel agreement on a Liquidity Coverage Ratio (LCR)⁽¹⁾ requirement for UK banks and building societies, the FPC recommended that the PRA introduce an initial minimum requirement of 80% until January 2015, rising thereafter to reach 100% by 2019.⁽²⁾ At the end of 2012, nearly all major UK banks' LCRs exceeded 100% as a result of the build-up of large liquid asset buffers by banks since the start of the crisis. An initial requirement of 80% rather than 100% provides scope for banks to reduce holdings of liquid assets relative to current requirements. The impact of this on the real economy is uncertain and will depend on how banks respond to these changes. It is possible, however, that a lower minimum LCR requirement could free up part of bank balance sheets, which could be used to support lending to the real economy instead.

Bank funding conditions

Following the sharp falls observed since mid-2012, international and UK funding spreads have widened slightly (**Chart 1.8**). This appears to have been related to the increase in risk premia across financial markets. Wholesale funding spreads have, however, remained low relative to crisis levels and broadly in line with the cost of obtaining funding through the Funding for Lending Scheme (FLS), as shown in the grey swathe in **Chart 1.8**. The FLS assures access to a source of cheap funding should market rates rise further.

Increases in retail deposit funding volumes have partly offset the reduction in banks' use of wholesale funding over the past year. As discussed in Section 1.4, this reflects an increased supply of deposits by households and businesses.

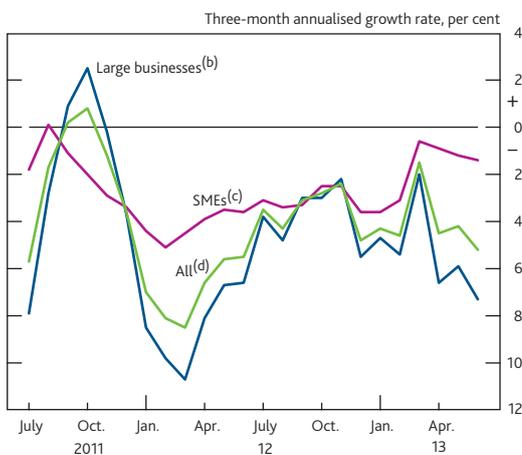
Chart 1.8 UK banks' indicative longer-term funding spreads



Sources: Bank of England, Bloomberg, Markit Group Limited and Bank calculations.

- (a) Constant-maturity unweighted average of secondary market spreads to mid-swaps for the major UK lenders' five-year euro senior unsecured bonds, where available. Where a five-year bond is unavailable, a proxy has been constructed based on the nearest maturity of bond available for a given institution and the historical relationship of that bond with the corresponding five-year bond.
- (b) Sterling only, average of two and three-year spreads on retail bonds. Spread over the relevant swap rate. Retail bond rates are a weighted average of rates from banks and building societies within the Bank of England's quoted rates samples.
- (c) The data show an unweighted average of the spread between euro-denominated covered bonds and equivalent-maturity swap rates for a selected bond issued by each of the major UK lenders, where available. Where a suitable covered bond is not available, a proxy has been constructed based on the nearest maturity of covered bond available for a given institution and the historical relationship of that bond with the corresponding covered bond. The selected bonds have residual maturities of between three and seven years.
- (d) Unweighted average of the five-year senior CDS premia for the major UK lenders, which provides an indicator of the spread on euro-denominated long-term wholesale bonds.
- (e) Shaded area represents the gap between the minimum FLS fee of 25 basis points for a non-deleveraging Scheme participant and the maximum fee of 150 basis points for a Scheme member deleveraging by more than 5%, plus four-year overnight index swap rates, as a spread over three-month Libor rates. For more detail on the overall costs of FLS funding, see Churm *et al.* (2012), 'The Funding for Lending Scheme', *Bank of England Quarterly Bulletin*, Vol. 52, No. 4, pages 306–20.

Chart 1.9 Lending to non-financial businesses by size^(a)



- (a) Lending by UK monetary financial institutions to UK non-financial businesses. Data exclude overdrafts. Data cover lending in both sterling and foreign currency, expressed in sterling. Non seasonally adjusted.
- (b) Large businesses are those with annual debit account turnover on the main business account of more than £25 million.
- (c) Small and medium-sized enterprises (SMEs) are those with annual debit account turnover on the main business account of less than £25 million.
- (d) All non-financial businesses are the sum of large businesses and SMEs.

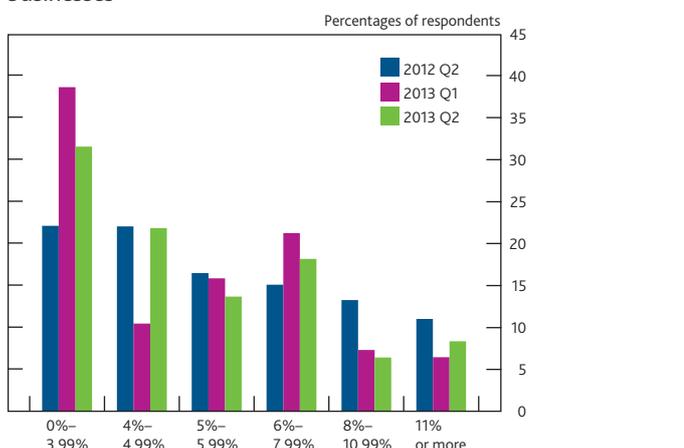
(1) The LCR is defined as the ratio of the stock of unencumbered high-quality liquid assets to total net cash outflows over a 30-day stress period.

(2) See Bank of England *Financial Stability Report*, June 2013.

1.3 Credit conditions

Credit conditions have continued to ease since the *May Report*, broadly in line with the MPC's expectations. That follows the substantial falls in bank funding costs since last summer, in part reflecting the operation of the FLS. The availability and cost of credit to households and businesses improved, with the recent slight increase in wholesale funding spreads not affecting retail borrowing rates. Bank balance sheet repair, as well as weak credit demand, has continued to weigh on overall net lending, which has remained broadly flat. As discussed in the box on page 15, net lending is expected to pick up and become modestly positive by the end of the year, as improvements in funding conditions continue to feed through and the drag from bank balance sheet repair eases.

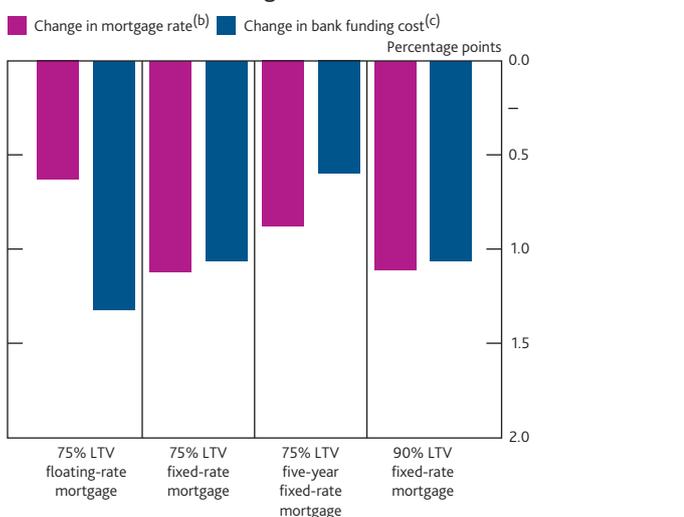
Chart 1.10 Distribution of loan rates offered to small businesses^(a)



Source: FSB 'Voice of Small Business' Panel.

(a) Interest rates that small businesses that successfully applied for bank credit reported that they had been offered. Results have been re-weighted to exclude 'unsure' responses. For further details on survey methodology, see www.fsb.org.uk/frontpage/assets/q1%20vosb.pdf.

Chart 1.11 Changes in quoted mortgage rates and indicative UK bank funding costs^(a)



Sources: Bank of England, Bloomberg and Bank calculations.

(a) Change between 30 June 2012 and 30 June 2013.
 (b) Two-year 75% loan to value (LTV) mortgages unless otherwise stated.
 (c) For fixed-rate mortgages, calculated as the sum of indicative UK bank secondary market bond spreads and the swap rate corresponding to the term of the mortgage. See footnote (a) of **Chart 1.8**. For floating-rate mortgages, three-month Libor is used in place of a swap rate.

Bank lending to companies

Survey evidence suggests that credit conditions faced by businesses have continued to improve since the *May Report*, most notably for larger businesses. The *Deloitte CFO Survey*, for example, which covers major UK companies, reported further increases in overall credit availability and falls in the cost of credit in Q2. The Bank's *Credit Conditions Survey* also suggests that demand for bank credit among larger companies continued to rise in Q2. Bank lending to large companies has, however, remained weak (**Chart 1.9**), with some large companies favouring alternative forms of finance such as the corporate bond market (Section 1.1).

Surveys point to a more mixed picture for the conditions faced by small and medium-sized businesses. While the Bank's *Credit Conditions Survey* respondents reported some improvement in credit availability for these borrowers, they also reported that falls in spreads have been less marked. Survey evidence from the Federation of Small Businesses (FSB) suggests that the pricing of loans for small businesses was more favourable in Q2 than in mid-2012 (**Chart 1.10**). Even so, small businesses have continued to report credit availability as being poor, while their demand for bank credit has also been low.

Bank lending to households and the housing market

The availability and price of household credit, particularly secured credit, has continued to improve since the *May Report*. According to the *Credit Conditions Survey*, the availability of credit rose further in Q2, following improvements over the past year. Relative to June 2012, quoted mortgage rates have fallen significantly following falls in bank funding costs (**Chart 1.11**), as have rates on unsecured loans.

Mortgage approvals for house purchase have been rising gradually. Approvals have been slightly slower to pick up than expected earlier in the year. To some extent, this may have reflected processing delays, consistent with reports from some contacts of the Bank's Agents of a slowing in the mortgage

The outlook for lending

Before the launch of the Funding for Lending Scheme (FLS) in July 2012, net lending was judged likely to decline in the subsequent 18-month period. That reflected both substantive rises in bank funding costs over 2011 H2 and 2012 H1, largely related to heightened concerns about the euro area, and the process of balance sheet repair being undertaken by major UK banks. The FLS was introduced to reduce UK bank funding costs and encourage lending to the real economy by linking the price and quantity of funding provided through the Scheme to net lending performance. This box reviews developments in net lending since the launch of the FLS, and sets out the outlook for lending.

Net lending has remained weak

UK bank funding costs have fallen substantially since the launch of the FLS in mid-2012 (Section 1.2). In part, that reflects falls in funding costs globally since last summer as concerns about the euro area declined. But the FLS has also played a role in reducing UK bank funding costs, which fell by more than those in some euro-area countries. Moreover, the FLS should help to keep future funding costs down by serving as a backstop marginal funding source were market funding costs to rise.

As expected, banks have continued to repair their balance sheets (Section 1.3), reducing exposures to certain sectors of the economy, such as commercial real estate. Although this process of balance sheet repair improves the resilience of banks, thus supporting future lending, the rundown of loan assets can act as a drag on net lending while repair is under way.

The improvement in funding costs has fed through to credit conditions faced by both households and businesses. Interest rates have fallen on a range of loan products and surveys show that the availability of credit has improved. Moreover, there has been some pickup in early indicators of lending flows, such as mortgage approvals (Section 1.3), albeit a little later than originally anticipated.

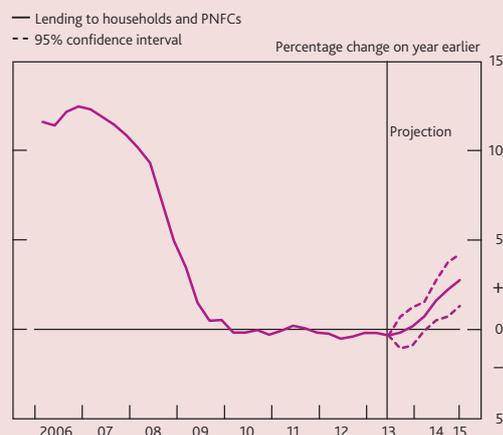
Four-quarter growth in net lending to both households and businesses has remained close to zero since mid-2012, similar to rates seen in the run-up to the launch of the FLS. The trend

in household net lending has been somewhat stronger than expected before the launch of the FLS, although PNFC net lending has been broadly similar. Many other aspects of the economy have evolved differently to expectations since the middle of last year. For example, GDP growth has been somewhat weaker than the MPC anticipated, which would tend to be associated with weaker demand for credit. Businesses have also turned to non-bank forms of finance (Section 1.3).

Lending is expected to pick up

The MPC's August projections incorporate a sustained recovery in growth (Section 5). Bank staff projections for net lending to the real economy, which are consistent with the MPC's outlook for growth and recent improvements in credit conditions, suggest that credit growth is likely to pick up, becoming modestly positive by the end of the year (**Chart A**). The MPC's central projection is consistent with mortgage approvals for house purchase rising above 60,000 a month by the end of the year, and the pace of decline in four-quarter PNFC net lending growth stabilising in Q3 and beginning to ease gradually thereafter. Net lending will, however, be heavily dependent on other developments in the economy and there are a number of risks to these projections (Section 5). For example, competition between retail banks may be insufficient to provide the degree of additional easing currently anticipated. Alternatively, demand for credit may be weaker than expected.

Chart A Bank staff projection for loans to households and PNFCs^(a)



(a) M4 loans and securities excluding the effects of securitisations and loan transfers. These data differ from the FLS measure of lending. Projection by Bank staff; confidence interval based on standard deviation of quarterly forecast errors from 2009–13 and assumes errors are normally distributed. This footnote differs from that in the printed version of the *Report*, which identified the confidence interval as based on root mean squared errors.

approval process. The MPC expects mortgage approvals to pick up further in coming months, alongside a broader improvement in housing market activity.

A range of measures point to renewed momentum in housing market activity (**Table 1.B**). Lower mortgage rates and increased availability of credit have helped to release pent-up demand and encourage new demand for house purchase.

Table 1.B Housing market activity indicators

	2000– 07 ^(a)	2011 ^(a)	2012 ^(a)	2013			
				Q1 ^(a)	Apr.	May	June
Level of activity							
Property transactions (000s) ^(b)	124	74	78	82	79	86	84
Mortgage approvals (000s) ^(c)	107	49	51	54	54	58	58
RICS sales to stocks ratio ^(d)	0.42	0.21	0.23	0.25	0.26	0.28	0.27
Changes in activity							
RICS new buyer enquiries ^(e)	-4	1	3	3	27	30	38
RICS new instructions to sell ^(e)	5	5	0	1	8	15	12
RICS sales expectations ^(f)	16	10	17	13	27	36	45

Sources: Bank of England, Her Majesty's Revenue and Customs, Royal Institution of Chartered Surveyors and Bank calculations.

(a) Averages of monthly data.

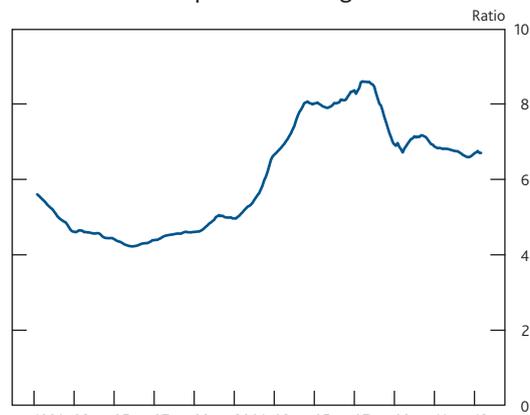
(b) From April 2005, number of residential property transactions with value £40,000 or above. Prior to April 2005 projected backwards using data on all property transactions in England and Wales.

(c) Mortgage approvals for house purchase.

(d) Ratio of sales recorded over the past three months to the level of stock on estate agents' books at the end of the month.

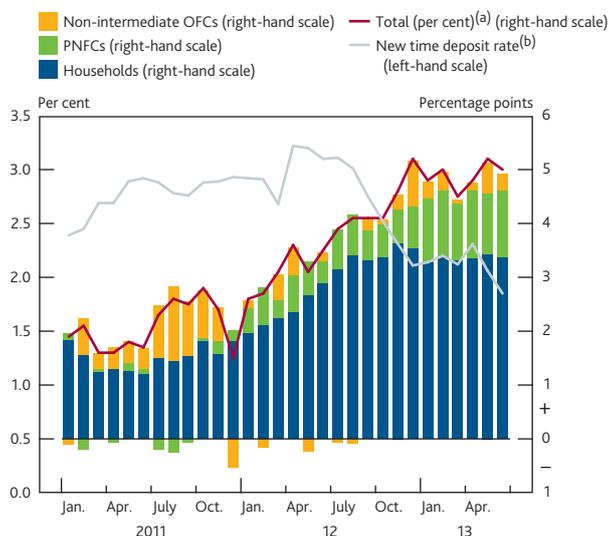
(e) Compared with previous month.

(f) Sales expectations for the next three months.

Chart 1.12 House price to earnings ratio^(a)

Sources: Halifax, Nationwide, ONS and Bank calculations.

(a) House prices are average of Nationwide and Halifax average house prices for the United Kingdom. Earnings are annualised average weekly earnings from 2000 onwards. Prior to 2000, data are projected backwards using the average earnings index. The data show three-month averages.

Chart 1.13 Contributions to twelve-month broad money growth, and time deposit interest rate

(a) Growth in M4 excluding intermediate other financial corporations.

(b) Monthly average of UK-resident monetary financial institutions' (MFIs) new sterling household time deposits. The Bank's effective interest rate series are compiled using data from 24 UK MFIs. The data are non seasonally adjusted.

Government policy, such as the Help to Buy scheme, should also support housing demand. The Help to Buy equity loan scheme, launched in April, provides support in the form of equity loans for the purchase of new-build properties (Section 2). The Help to Buy mortgage guarantee scheme, due to be launched in January 2014, is intended to encourage greater provision of mortgages to prospective first-time homebuyers and homemovers with deposits of between 5% and 20%.

Alongside increases in housing market activity, house prices have continued to rise since the *May Report*. The Halifax and Nationwide house price indices reported respective rises of 2.1% and 0.4% in the three months to June compared to the previous three months. The rises seen to date have, however, been modest relative to falls seen during the recession: the house price to earnings ratio remains well below levels reached in 2007 (Chart 1.12).

1.4 Money

The four-quarter growth rate of broad money has continued to pick up, averaging nearly 5% over the past few months, although it remains well below pre-recession rates (Chart 1.13). The MPC's asset purchases boosted annual money growth in 2012. Although that direct boost has since faded, the purchases may still be filtering through to households' and PNFCs' money growth.

Annual growth in PNFC money rose to 8% in June, having averaged around 4% in 2012. In the past, a pickup in PNFC money growth has preceded stronger investment growth. The recent rises may, however, reflect other factors, such as companies choosing to accumulate larger cash balances. For example, concerns about the future ease of access to, and cost of, bank credit may have led some companies to build up higher cash balances to 'self insure' against future adverse developments.

Household deposits continue to account for the bulk of the recent strength in money growth. This strength has largely been sustained by flows into sight deposits, which are typically used for transactions purposes. In principle, that could signal stronger future spending growth. It is possible, however, that falls in interest rates on longer-term savings products have meant that households view sight and time deposits as closer substitutes than in the past. If so, then the increased flows into sight deposits may not presage a rise in household spending growth.

Monetary policy since the May Report

The MPC's central projection in the *May 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 £375 billion, was for a modest and sustained recovery in demand growth. Under the same assumptions, the MPC judged that CPI inflation was likely to remain above the 2% target for much of the next two years, before falling back to the target towards the end of the forecast period.

At the time of the MPC's meeting on 5–6 June, the Committee noted that although there had been little news on UK real activity on the month, the developments had generally been positive and followed a sequence of small improvements in earlier months. This suggested that the recovery was becoming more established, and overall, the Committee judged that recent news was consistent with the slow but sustained recovery in growth over 2013 embodied in the *May Inflation Report*.

Twelve-month CPI inflation had fallen back by more than expected in April, to 2.4%. Nevertheless, inflation was likely to rise, and then remain close to 3% throughout the autumn, and the Committee judged that the medium-term outlook for inflation was little changed. The Committee also noted the unusual weakness of pay growth. That weakness meant that near-term domestic cost pressures were likely to be more favourable than they had been in recent years. But the significance for the medium-term inflation outlook depended on why wages were weak: a lagged response to past productivity weakness would probably have a less persistent effect than a greater drag from labour market slack.

The situation remained one in which above-target inflation was accompanied by a degree of slack in the economy. The speed at which the Committee sought to return inflation to the target would depend on its judgements about the consequences of its decisions both for the long-term supply capacity of the economy and for public confidence that inflation would be brought back to the target in the medium term. There were therefore two important factors that weighed on the policy decision: the potential impact of weak demand on long-term supply and the potential responsiveness of inflation expectations to continued above-target inflation. As in previous months, different Committee members formed different judgements on these issues. But there had been little news on them over the month.

Against that backdrop, six members voted to maintain the stock of asset purchases, while three voted to increase the size of the asset purchase programme by a further £25 billion to £400 billion. The Committee voted unanimously to maintain Bank Rate at 0.5%.

At the time of its meeting on 3–4 July, the MPC judged that developments in the domestic economy had generally been positive and broadly in line with the recovery laid out in the *May Inflation Report* projections. The activity surveys had continued to pick up, signalling stronger growth in Q2, and there were also greater signs that the gradual reduction in uncertainty and improvement in credit conditions over the past year were feeding into household spending, as well as starting to boost house prices and housing market activity. There had been little news about near-term inflation prospects. Twelve-month CPI inflation had increased to 2.7% in May and was set to rise further in the near term, before falling back towards the 2% target as productivity growth was expected to curb domestic cost pressures.

Market interest rates had risen sharply internationally and asset prices had been volatile. The rise in US interest rates had probably reflected a change in monetary policy expectations there, rather than news about the economic outlook. UK gilts were to a certain extent substitutes for US Treasuries, so the observed rise in longer-term UK gilt yields was understandable. But it was less clear why UK short-term interest rates had risen. Taken in isolation, the Committee judged that this rise in interest rates represented an unwelcome tightening in monetary conditions. Given that, the Committee agreed that it was important to communicate that the implied rise in the expected future path of Bank Rate had not been warranted by recent developments in the UK economy.

For most members, the policy setting was appropriate and the onus on policy was to reinforce the recovery by ensuring that stimulus was not withdrawn prematurely, subject to keeping inflation on track to hit the 2% CPI inflation target in the medium term. The recent rise in market interest rates, were it to be maintained, would represent such a premature withdrawal, but the proposed statement from the Committee should help to prevent that.⁽¹⁾

The other members, who considered that further stimulus was warranted, judged that although domestic activity was recovering as envisaged in the *May Inflation Report*, the pace remained too slow to begin to close the economy's margin of spare capacity. While they acknowledged that expanding the asset purchase programme remained one means of expanding stimulus, they noted that the Committee was due to respond to the Chancellor's request for its assessment of the use of thresholds and forward guidance on 7 August. In light of this investigation of other policy options, initiating an expansion at this meeting was not considered sensible.

Against that backdrop, the MPC voted unanimously to maintain the stock of asset purchases at £375 billion and to maintain Bank Rate at 0.5%.

(1) For the policy statement that accompanied the MPC's decision in July see: www.bankofengland.co.uk/publications/Pages/news/2013/007.aspx.

2 Demand

GDP increased modestly in 2013 Q1, as household spending continued to rise and net trade improved. Business investment remained weak. The picture for the rest of the world continued to be mixed. Euro-area output fell, while the US recovery progressed at a moderate pace, and growth in emerging economies eased. UK domestic demand is likely to have expanded solidly in 2013 Q2 and net trade is likely to have improved a little further.

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

Percentage changes on a quarter earlier	Averages		2012			2013
	1998–2007	2008–11	Q2	Q3	Q4	Q1
Household consumption ^(b)	0.9	-0.3	0.6	0.2	0.4	0.5
Private sector investment	0.9	-1.6	-3.2	-0.2	-5.4	0.6
<i>of which, business investment^(c)</i>	0.7	-0.4	-1.2	3.1	-6.2	-1.2
<i>of which, private sector dwellings investment</i>	0.6	-0.3	-7.9	-8.6	-7.2	9.0
Private sector final domestic demand	0.9	-0.6	0.1	0.1	-0.5	0.6
Government consumption and investment ^(c)	0.8	0.2	-0.5	-0.1	0.5	-0.1
Final domestic demand	0.9	-0.4	-0.2	0.0	-0.3	0.4
Change in inventories ^{(d)(e)}	0.0	0.0	1.2	0.4	-0.3	-1.0
Alignment adjustment ^(e)	0.0	0.0	-0.7	-0.1	0.7	0.2
Domestic demand	0.9	-0.4	0.3	0.4	0.0	-0.3
'Economic' exports ^(f)	1.1	0.4	-0.5	1.9	-1.9	-0.1
'Economic' imports ^(f)	1.4	-0.3	1.7	0.6	-1.0	-2.0
Net trade^{(e)(f)}	-0.1	0.2	-0.7	0.4	-0.3	0.6
Real GDP at market prices	0.8	-0.3	-0.5	0.7	-0.2	0.3

(a) Chained-volume measures.

(b) Includes non-profit institutions serving households.

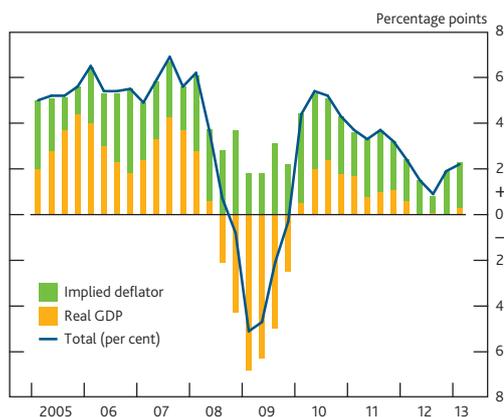
(c) Government and business investment data have been adjusted by Bank staff to take account of the transfer of nuclear reactors from the public corporation sector to central government in 2005 Q2.

(d) Excludes the alignment adjustment.

(e) Percentage point contributions to quarterly growth of real GDP.

(f) Excluding the impact of missing trader intra-community (MTIC) fraud. Official MTIC-adjusted data are not available for exports, so the headline exports data have been adjusted by Bank staff for MTIC fraud by an amount equal to the ONS import adjustment.

Chart 2.1 Contributions to four-quarter growth in nominal GDP^(a)



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

GDP grew by 0.3% in 2013 Q1, driven in large part by household spending (**Table 2.A**). In contrast, investment is estimated to have fallen further, although outstanding issues with the data raise questions over the reliability of current estimates (see the box on page 20). Overall, domestic demand growth remained below its pre-recession average rate in Q1, as the economy continued to adjust to the repercussions of the financial crisis (Section 2.1). Exports fell by less in 2013 Q1 than the average quarterly decline seen in 2012, and are likely to have risen in Q2 (Section 2.2).

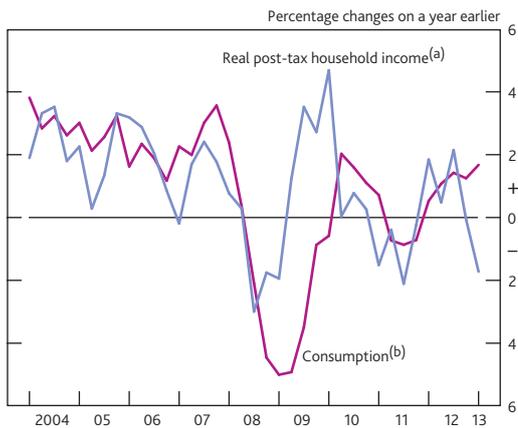
Weakness in real activity continued to be associated with subdued nominal spending. Nominal GDP rose by 2.2% in the year to 2013 Q1, well below its pre-recession average rate of around 5% (**Chart 2.1**). Growth in nominal GDP continued predominantly to reflect increases in the prices of goods and services, rather than increases in real activity.

2.1 Domestic demand

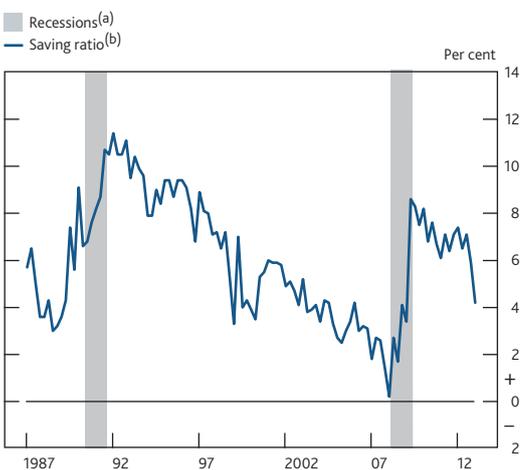
Household spending

Household spending rose by 0.5% in 2013 Q1 (**Table 2.A**), a larger rise than anticipated at the time of the *May Report*, despite an unexpectedly sharp fall in income (**Chart 2.2**). Bank staff estimate that some of the fall in income is likely to prove temporary, reflecting the deferral of earnings from 2013 Q1 to Q2 in anticipation of the announced reduction in the top rate of income tax (Section 4). As spending growth outstripped income growth in Q1, the saving ratio fell to 4.2% from 5.9% (**Chart 2.3**). Some of that decline is likely to unwind if, as expected, income rebounds in 2013 Q2.

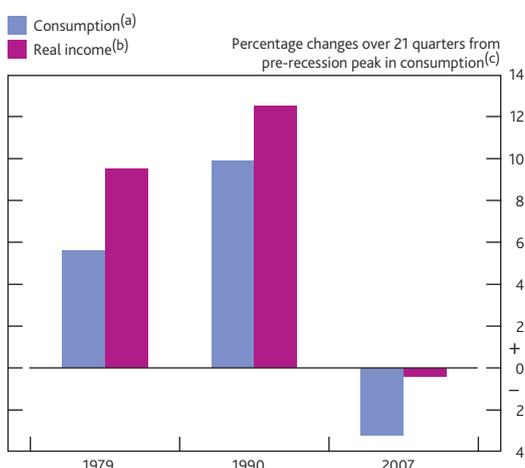
Since the economic recovery began in mid-2009, consumer spending has risen by only 3.5% and remains around 3% below its pre-recession peak. That is weak compared with previous UK experience; at this stage in the 1980s and 1990s recoveries, the level of spending had surpassed their respective pre-recession peaks by around 6% and 10% (**Chart 2.4**).

Chart 2.2 Household consumption and real income

(a) Total available household resources, deflated by the consumer expenditure deflator. Includes non-profit institutions serving households.
 (b) Chained-volume measure. Includes non-profit institutions serving households.

Chart 2.3 Household saving ratio

(a) Recessions are defined as at least two consecutive quarters of falling output (at constant market prices) estimated using the latest data. Recessions are assumed to end once output began to rise.
 (b) Percentage of household post-tax income.

Chart 2.4 Household consumption and real income compared with previous recessions

(a) Chained-volume measure. Includes non-profit institutions serving households.
 (b) Total available household resources, deflated by the consumer expenditure deflator. Includes non-profit institutions serving households.
 (c) Peaks in consumption occurred in 1979 Q2, 1990 Q2 and 2007 Q4.

A key reason for weak spending growth in this recovery has been weak income growth (**Chart 2.2**), as poor productivity growth and labour market slack have constrained pay, while above-average rises in energy and import prices have further eroded households' real income (Section 4). In 2013 Q1, real income was still below its 2007 peak. By the same stage of the 1990s recovery, real income was around 12% above its pre-recession level (**Chart 2.4**).

Consumer spending over the second half of 2013 will depend in large part on income, the growth of which is likely to remain subdued. But spending will also depend on whether households are still adjusting to the factors that have encouraged higher saving over the past five years, such as lower income expectations, reduced credit availability and greater uncertainty. The proportion of income saved by households rose sharply during the recession and remained at around that level until the recent fall (**Chart 2.3**).

The extent and pace of the adjustment to those factors is likely to vary across households. In particular, for those households with high levels of debt relative to their income, the impact on saving of factors such as heightened uncertainty is likely to have been amplified.⁽¹⁾ Those households may therefore be more likely than others to continue to save more of their income than they did before the crisis, in order to reduce their indebtedness further or to build up a bigger buffer of savings. Less indebted households, in contrast, may become increasingly inclined to save less, or borrow more, especially as uncertainty diminishes and confidence grows.

There are some indications that households in aggregate are becoming more confident. According to the GfK survey, households' expectations about both their own financial situation and the general economy picked up markedly in July, to their highest levels since 2010 (**Chart 2.5**). In 2013 H1, unsecured lending, which is typically used to finance consumer spending, rose at rates last seen in early 2008. And there are signs of increasing housing market activity (Section 1), which could support spending as households are more likely to purchase durable goods, such as freezers and furniture, when moving home.⁽²⁾ Nevertheless, consumer confidence, unsecured borrowing and housing transactions all remain below pre-crisis levels, consistent with the judgement in the *May Report* that households are still adjusting in the wake of the financial crisis. Overall, spending in 2013 Q2 is likely to rise about as fast as in Q1, consistent with a pickup in growth in both retail sales and private car registrations. And growth rates for consumption of around 0.5% a quarter in 2013 H2 and early 2014 would be consistent with the central view in the MPC's projections (Section 5).

(1) The box on pages 22–23 of the *May 2013 Report* discusses possible explanations for the greater increase in saving in recent years of households with higher debt to income ratios than of less indebted households.

(2) Benito, A and Wood, R (2005), 'How important is housing market activity for durables spending?', *Bank of England Quarterly Bulletin*, Summer, pages 153–59.

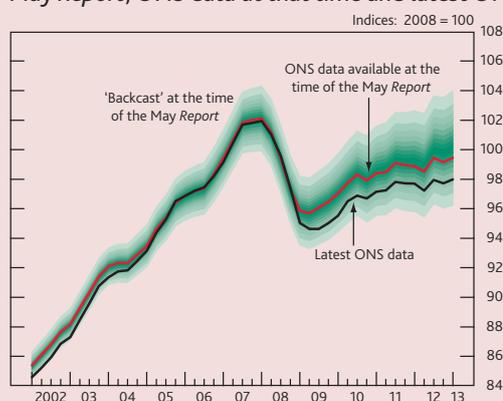
Revisions to the National Accounts

The *Blue Book* is an annual ONS publication in which National Accounts data are revised to reflect the incorporation of a wider range of information than is used to produce earlier estimates, and also to reflect any methodological changes.⁽¹⁾

The broad shape of the recession and recovery were not changed by the 2013 *Blue Book* revisions, although downward revisions to output in 2009 mean that the peak-to-trough fall is now estimated to be 7% rather than 6%. Quarterly growth was revised up a little in 2012 Q1, such that there are no longer three quarters of contraction from 2011 Q4. But the overall picture of a very weak recovery remains: indeed, the rise in output since its trough has been revised down slightly.

The level of output in 2013 Q1 is estimated to be almost 1½% further below its pre-crisis peak than in the previous vintage of data. That was driven by revisions to investment and was not expected at the time of the *May Report*. Indeed, the MPC had judged it more likely than not that GDP would be revised up a touch (**Chart A**), based on the past pattern of revisions and other activity indicators. The MPC's backcast, shown in **Chart 5.6** on page 45 has been set equal to the ONS data up to and including 2010.

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



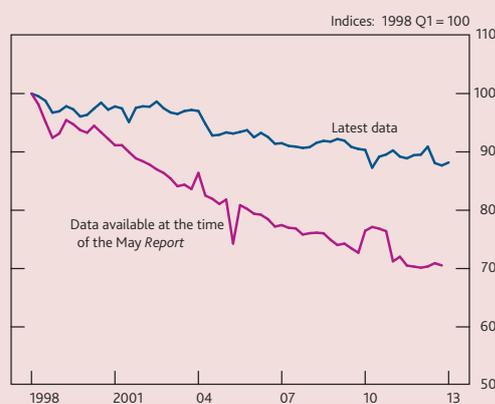
Sources: ONS and Bank calculations.

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

The most significant revisions in the 2013 *Blue Book* resulted from changes to the measurement of investment.⁽²⁾ In particular, components of investment are now deflated and seasonally adjusted at a more disaggregated level. And there were significant changes to the methodology for allocating annual supply-use balancing adjustments to quarterly data. These changes affected data from 1997 onwards and led to unusually large revisions to the investment data. In July, the ONS released some corrections to the initial estimates of the sectoral split of Gross Fixed Capital Formation, including business investment, but these had no implications for GDP.

Deflating the investment data at a more disaggregated level has led to a significant change in the aggregate deflator. That in turn led to downward revisions to real investment and output. Producers of capital machinery and equipment tend to have faster productivity growth than producers in other sectors, especially producers of services. That should put downward pressure on the price of investment relative to the general price level.⁽³⁾ The extent of that downward pressure will depend on the share of such capital goods in investment relative to investment in other assets, such as buildings; buildings comprise around half of UK business investment. In previous vintages of ONS data, the relative price of investment fell much more rapidly over time than in the latest data (**Chart B**). That is, in part, because the share of capital goods in investment is now estimated to have fallen, whereas it was previously estimated to have been broadly constant.

Chart B Business investment deflator to GDP deflator ratios^(a)



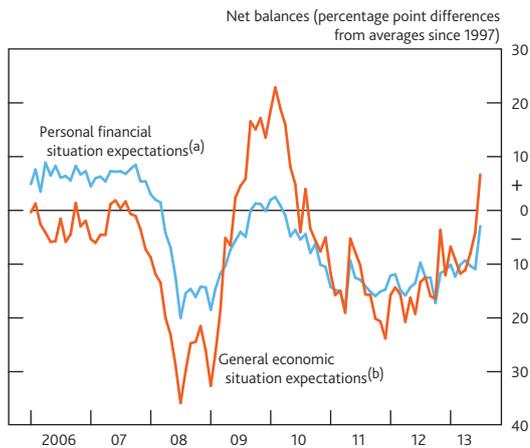
(a) Business investment data have been adjusted by Bank staff to take account of the transfer of nuclear reactors from the public corporation sector to central government in 2005 Q2.

The methodological changes to quarterly balancing have led to a significant increase in the quarterly volatility of both real and nominal business investment (**Chart 2.7**). That increased volatility makes it more difficult to assess the underlying strength of business spending, but it has not materially increased the volatility of overall GDP.

Pending further analysis of the new deflators, the MPC is minded to put less weight than usual on current estimates of business investment. Overall, however, since the revisions to the level of GDP are concentrated in 2009, they do not significantly alter the MPC's assessment of the current degree of inflationary pressure.

- (1) For further details on the 2013 changes see Hardie, M, Lee, P and Perry, F (2013), 'Impact of changes in the National Accounts and economic commentary for Q1 2013', available at www.ons.gov.uk/ons/guide-method/method-quality/specific/economy/national-accounts/articles/2011-present/impact-of-changes-in-the-national-accounts-and-economic-commentary-for-2013-quarter-1/impact-of-changes-in-NA.pdf.
- (2) ONS (2013), 'Explaining the impact of the Blue Book 2013 changes to Gross Fixed Capital Formation and business investment', available at www.ons.gov.uk/ons/guide-method/method-quality/ons-statistical-continuous-improvement/gross-fixed-capital-formation---impact-analysis-of-improved-methods.pdf.
- (3) For more detail, see Bakshsi, H and Thompson, J (2002), 'Explaining trends in UK business investment', *Bank of England Quarterly Bulletin*, Spring, pages 33–41.

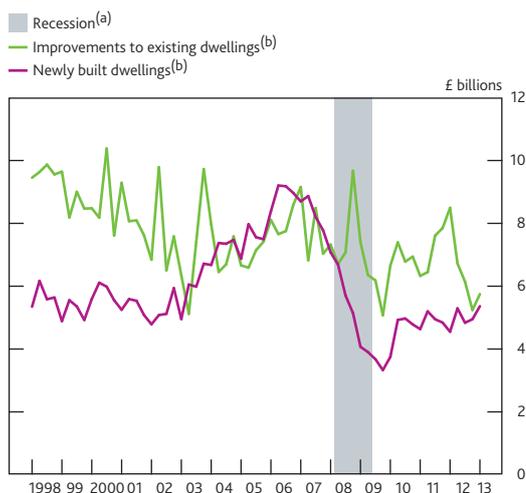
Chart 2.5 Households' personal financial and general economic situation expectations



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

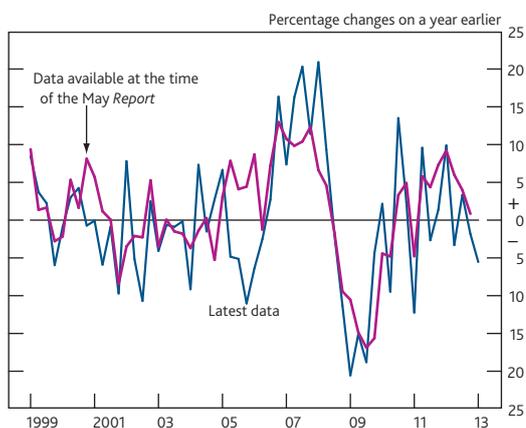
- (a) The question asks how households expect their personal financial situation to change over the next twelve months.
 (b) The question asks how households expect the general economic situation to change over the next twelve months.

Chart 2.6 Dwellings investment



- (a) Recessions are defined as in footnote (a) of Chart 2.3.
 (b) Chained-volume measures.

Chart 2.7 Business investment^(a)



- (a) Chained-volume measures. Business investment data have been adjusted by Bank staff to take account of the transfer of nuclear reactors from the public corporation sector to central government in 2005 Q2.

Dwellings investment

Improved confidence may have encouraged greater spending on housing; private sector dwellings investment, which includes both purchases of newly built homes and improvements to existing homes, rose by 9% in 2013 Q1 (Table 2.A) but remains well below its pre-recession peak (Chart 2.6). Despite a share in GDP of around 3%, dwellings investment accounted for around 15% of the fall in output during the recession.

Dwellings investment is likely to rise gradually over the rest of 2013, supported by the declines in mortgage rates and improved mortgage availability, in part related to the Funding for Lending Scheme (Section 1). In addition, the Government's Help to Buy shared equity scheme was launched in April 2013 (Section 1) and is expected to provide some support for purchases of newly built homes.

Business spending

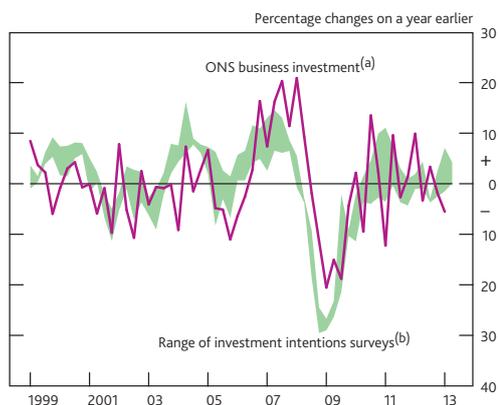
The ONS estimates that business investment fell in 2013 Q1 (Table 2.A), in contrast to the modest rise expected at the time of the *May Report*. And investment growth in 2012 Q4 is now weaker than in the previous vintage of data (Chart 2.7). But, as discussed in the box on page 20, the MPC places less weight than usual on the current estimates, due to outstanding questions about the impact of methodological changes.

Notwithstanding the issues surrounding the data, it is likely that investment has been growing at a rate below its pre-crisis average in recent quarters, as some companies' propensity to invest will have been diminished by past weakness in activity. The output recovery has been subdued and companies continue to report some spare capacity (Section 3). Investment by non-energy companies is likely to have been even weaker than the aggregate data: information from the Department of Energy and Climate Change and industry sources suggests that strong increases in investment by energy companies supported overall investment growth in 2011 and 2012.

It is difficult, however, to reconcile trends in output and uncertainty with the slowing in business investment growth in 2012. The service sector, which accounts for the majority of business investment, has been expanding, albeit gradually, since 2009 (Section 3). Although past rises in uncertainty — relating, for example, to tensions in the euro area — may account for some of the weakening in investment, demand uncertainty, as reported by the Confederation of British Industry (CBI), has been broadly stable since early 2010.

Overall, a range of survey indicators (Chart 2.8), as well as output data more generally, suggest that any recent slowing in investment growth is not likely to persist. The MPC judges that business investment growth is likely to be positive, albeit subdued, through the rest of 2013 (Section 5).

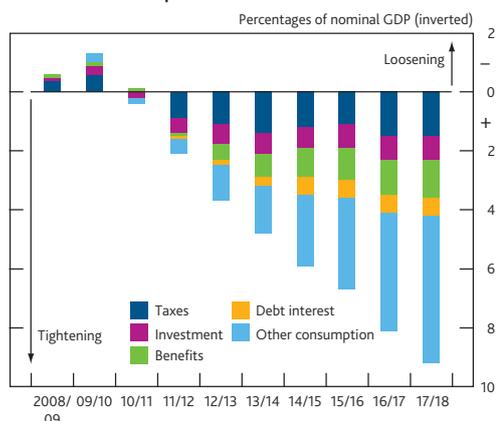
Chart 2.8 Business investment and surveys of investment intentions



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

- (a) Chained-volume measure. Business investment data have been adjusted by Bank staff to take account of the transfer of nuclear reactors from the public corporation sector to central government in 2005 Q2. Data are to 2013 Q1.
- (b) Data are to 2013 Q2. Includes survey measures of investment intentions from the Bank's Agents (companies' intended changes in investment over the next twelve months), BCC (net percentage balance of companies who say they have increased planned investment in plant and machinery over the past three months) and CBI (net percentage balance of companies who say they have revised up planned investment in plant and machinery over the next twelve months), scaled to match the mean and variance of four-quarter business investment growth since 1999. Measures weight together sectoral surveys using shares in real business investment. Bank's Agents' data cover the manufacturing and services sectors. BCC data are non seasonally adjusted and cover the non-services and services sectors. CBI data cover the manufacturing, distribution, financial services and consumer/business services sectors.

Chart 2.9 Composition of the fiscal consolidation^(a)



Sources: HM Treasury, Institute for Fiscal Studies and Office for Budget Responsibility.

- (a) Bars represent the planned fiscal tightening (reduction in government borrowing) relative to the March 2008 *Budget* projections, decomposed into tax increases and spending cuts, with the spending cuts further subdivided into benefit cuts, other current spending cuts and investment spending cuts. The calculations are based on all HM Treasury Budgets, Pre-Budget Reports and Autumn Statements between March 2008 and March 2013. See www.ifs.org.uk/publications/6683 for more detail.

Table 2.B GDP in selected countries and regions^(a)

	Averages		2012		2013	
	1998–2007	2008–12 Q2	Q3	Q4	Q1	Q2
Euro area (40%)	2.3	-0.3	-0.4	-2.4	-1.1	n.a.
United States (17%)	3.0	0.7	2.8	0.1	1.1	1.7
Japan (2%)	1.1	0.0	-3.6	1.2	4.1	n.a.
China (3%)	10.0	9.4	7.4	7.9	7.7	7.5
India (1%)	9.5	7.2	2.5	4.1	3.0	n.a.
Brazil (1%)	3.0	3.1	1.3	2.6	2.2	n.a.

Sources: Eurostat, Indian Central Statistical Organisation, Instituto Brasileiro de Geografia e Estatística, Japanese Cabinet Office, National Bureau of Statistics of China, ONS and US Bureau of Economic Analysis.

- (a) Real GDP measures. Figures in parentheses are shares in UK goods and services exports in 2012 from the 2013 *Pink Book*.
- (b) Chinese and Indian data are four-quarter growth, because data on quarterly Chinese growth are only available from 2010 Q4, and seasonally adjusted Indian GDP data are not available. The earliest observation for China is 2000 Q1 and for India is 2005 Q2.

Lower business spending in 2013 Q1 was not limited to investment; the ONS estimates that spending on inventories also fell. That fall was concentrated in distribution companies; manufacturing companies increased their stock levels. Stockbuilding data are volatile and early estimates are often revised as the ONS receives additional information. But the *CBI Distributive Trades Survey* provides tentative evidence that companies ran down stock levels in Q1 because demand turned out stronger than they expected. Stock adequacy fell in 2013 Q1, whereas respondents had expected it to rise. That survey suggests that distributors rebuilt stocks in Q2.

Government spending

A substantial fiscal consolidation is under way. At the time of the March 2013 *Budget*, the Office for Budget Responsibility (OBR) projected that the fiscal deficit would narrow by around 6 percentage points between 2011/12 and 2017/18. According to the ONS, public sector net borrowing fell from 7.7% of nominal GDP in 2011/12 to 7.4% in 2012/13, slightly lower than in the OBR's projection.⁽¹⁾

According to the Institute for Fiscal Studies (IFS), around 40% of the fiscal tightening, relative to the March 2008 *Budget*, has so far taken place (Chart 2.9). The IFS estimates that the additional fiscal tightening each year is equivalent to around 1% of nominal GDP on average from 2008/09 to 2017/18, and the pace of consolidation is planned to be broadly similar in 2013/14 to that in 2012/13. Although it is difficult to know what would have happened in its absence, the consolidation is likely to have weighed on output growth over the past three years and will continue to do so.

2.2 External demand and UK trade

Global output growth strengthened in 2013 Q1, although it remains weak by historical standards. The pattern of growth was mixed. Euro-area output fell. In contrast, the US recovery continued at a moderate pace and Japanese growth picked up sharply (Table 2.B). Growth slowed in China and other emerging economies. Global output growth is expected to pick up in 2013 Q2, driven by advanced economies.

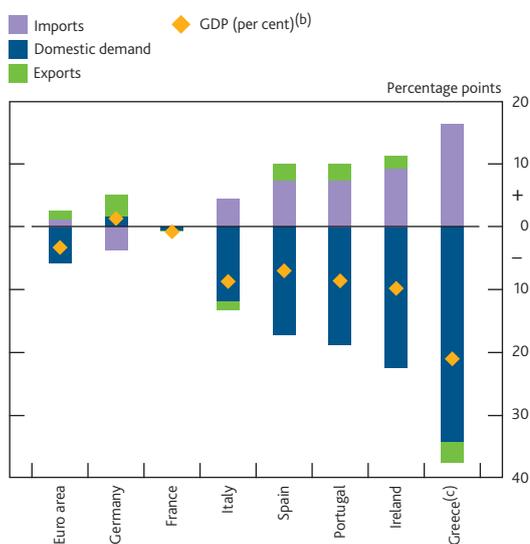
The euro area

Euro-area output fell by 0.3% in 2013 Q1. That weakness was broadly based; output fell in all the periphery countries and in France, while it rose only slightly in Germany. Early indicators of Q2 euro-area activity, such as consumer confidence and industrial production, have generally improved and point to broadly flat output.

Weakness in euro-area activity in recent years reflects the significant challenges of raising competitiveness and reducing

(1) These figures exclude the temporary effects of financial interventions and the projected effect of the transfer of the Royal Mail's existing pension liabilities and a share of its pension fund assets into public sector ownership.

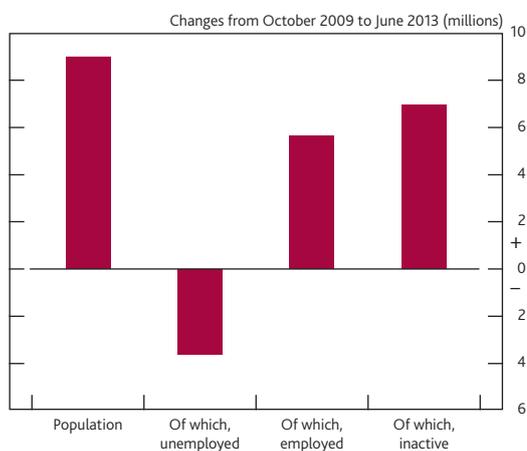
Chart 2.10 Contributions to cumulative change in GDP since pre-recession peak in selected euro-area countries^(a)



Sources: Eurostat and Bank calculations.

- (a) Pre-crisis peak is in 2008 Q1 other than for Italy (2007 Q3), Portugal and Ireland (2007 Q4), and Greece (2008 Q3).
 (b) Contributions may not sum to total due to chain-linking, seasonal adjustment and other statistical discrepancies.
 (c) Seasonally adjusted data for Greece are available up to 2011 Q1. Data for Greece for 2011 Q2 onwards are assumed to grow in line with four-quarter growth in the non seasonally adjusted series.

Chart 2.11 US population, unemployment, employment and inactivity^(a)



Source: Bureau of Labor Statistics.

- (a) All series refer to civilians aged 16 or over.

indebtedness in the periphery. In the run-up to the crisis, significant imbalances built up within the euro area as those countries ran persistent current account deficits, financed in large part by borrowing from other euro-area countries, especially Germany.⁽¹⁾ That was associated with relatively strong domestic demand growth in some countries.

Since the crisis, the most indebted euro-area countries have made significant progress in narrowing their current account deficits. That improvement has so far been associated more with lower imports following sharp falls in domestic demand, than with higher exports (Chart 2.10). To the extent that domestic demand was unsustainably high before the crisis, however, the decline in imports partly reflects a necessary adjustment towards more balanced growth. The continuing need to reduce private and public indebtedness, and to improve competitiveness through wage and price moderation, is likely to weigh on domestic demand in those economies for some time to come and therefore GDP growth if exports do not grow sufficiently strongly to fill the gap. Consistent with that, the MPC expects gently rising output in the euro area as a whole in 2013 H2 and early 2014 (Section 5).

The United States

US output growth picked up to 0.4% in 2013 Q2 from a downwardly revised 0.3% in 2013 Q1. Within that, consumer spending growth was relatively robust. Methodological changes to the US national accounts, in particular the reclassification of research and development spending from intermediate consumption, which does not count as value added, to investment, led to the level of output being revised up by 3.6% by 2012, but this had relatively few implications for recent growth rates.

US non-farm payrolls have risen by around 200,000 a month in recent quarters. But over the recovery as a whole, employment growth has been modest, leaving the employment rate broadly flat. The number of people who are neither in work nor actively seeking a job has, however, risen significantly (Chart 2.11), reflecting both cyclical and structural factors. The resulting decline in participation has contributed to much of the fall in the unemployment rate, which fell from its peak of 10% in October 2009 to 7.6% in June 2013.

The MPC's central view is consistent with US growth of around 0.5% a quarter in 2013 H2 (Section 5). Further improvement in the housing market and household balance sheets, along with a slowly improving jobs market, should support growth, but fiscal consolidation will act as a drag.

Rest of the world

Japanese output rose by 1.0% in 2013 Q1, compared with average quarterly growth of 0.1% in 2012, as growth in

(1) Rebalancing in the euro area is discussed in Bean, C (2013), 'Rebalancing', available at www.bankofengland.co.uk/publications/Documents/speeches/2013/speech662.pdf.

consumer spending and exports picked up. Stronger domestic demand may have reflected improved sentiment in anticipation of policy reform following the change of government in December 2012, although it predated the April announcement of a monetary stimulus package.⁽¹⁾ Output growth is likely to have remained robust in Q2: consumer confidence rose to its highest level since early 2007, and output indicators have generally improved.

Growth in emerging economies slowed in 2013 Q1 (**Table 2.B**) by more than anticipated at the time of the *May Report*. Four-quarter growth in Chinese output slowed a little further in Q2 to 7.5%, in line with the government's announced target. Industrial production data and some output surveys point to a further slowing in growth in other emerging economies in Q2.

Growth in emerging economies is likely to remain lower than prior to 2008, averaging around 7.5% in China and 5% in other emerging economies in 2013 H2 (Section 5). As China rebalances demand away from investment towards consumption, growth is likely to be lower than between 2000 to 2007. That is likely to weigh on growth in other Asian economies. In addition, in those economies with high inflation, such as India and Brazil, policymakers' scope to add stimulus is likely to remain constrained.

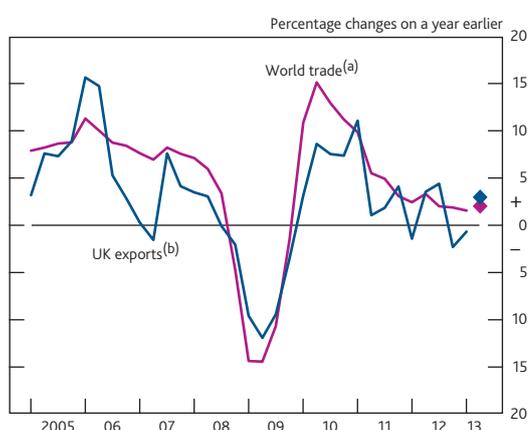
Trade

UK net trade improved markedly in 2013 Q1, driven by a sharp easing in the rate of decline of exports (**Table 2.A**). In addition, imports fell sharply in 2013 Q1, reflecting in part lower stockbuilding, which is highly import-intensive.

UK export performance is likely to have improved in 2013 H1. From 2010 to 2012, the share of world trade captured by UK companies declined at a rate similar to that seen pre-crisis, as world trade growth outstripped UK export growth, despite the support from the 2007/08 depreciation of sterling (**Chart 2.12**). That largely reflected weakness in services exports, in particular in financial services.⁽²⁾ But data for Q1, together with April and May trade in goods data, suggest that the UK export share was broadly flat in 2013 H1 as a whole, slightly stronger than expected at the time of the *May Report*.

The current account deficit widened a little in 2013 Q1 as the trade balance improved but net investment income fell (**Chart 2.13**). Since 2011, the current account has deteriorated markedly, reflecting a sharp fall in the income the United Kingdom receives on its investment abroad. That is accounted for, in turn, by a lower rate of return on that investment. Provisional 2012 estimates from the ONS indicate that there were falls in income earned on both European and non-European investment. It is unclear whether those falls will prove temporary or persistent.

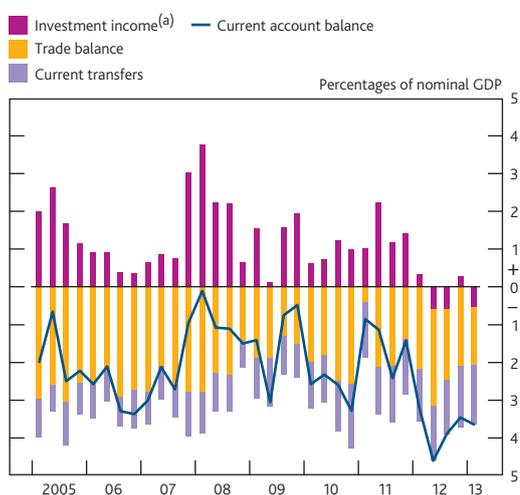
Chart 2.12 World trade and UK exports



Sources: CPB Netherlands Bureau for Economic Policy Analysis, OECD and ONS.

- (a) Volume measure. Countries are weighted together using shares in world trade in 2005. OECD data on trade in goods and services are available until 2013 Q1. The diamond shows average trade in goods data for April and May 2013, constructed by CPB Netherlands, compared to the 2012 Q2 OECD data.
- (b) Chained-volume measure excluding the estimated impact of MTIC fraud. Official MTIC-adjusted data are not available, so the headline exports data have been adjusted by Bank staff for MTIC fraud by an amount equal to the ONS's imports adjustment. The diamond shows data for headline goods exports in April and May 2013 compared to 2012 Q2.

Chart 2.13 UK current account



(a) Includes compensation of employees.

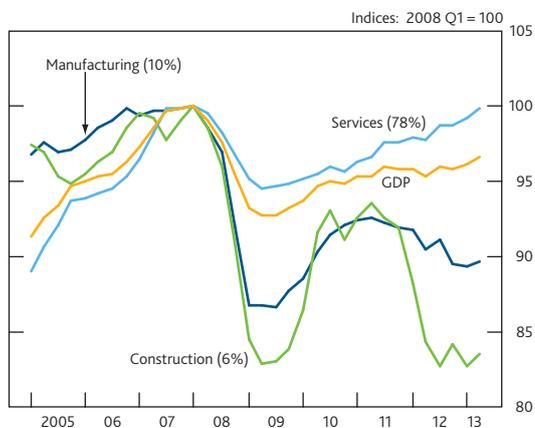
(1) For information on the subsequently announced monetary stimulus package, see the box on page 10 of the *May 2013 Report*.

(2) For more detail, see the box on pages 24–25 of the *February 2013 Report*.

3 Output and supply

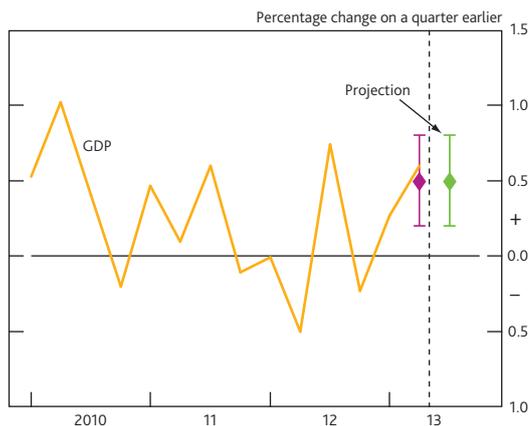
Output is estimated to have expanded by 0.6% in Q2, and a similar increase is expected in Q3. Employment growth has eased from unusually strong rates. Productivity remains some 8% below its pre-crisis level. A margin of slack remains in the economy, both within companies and particularly within the labour market.

Chart 3.1 GDP and sectoral output^(a)



(a) Chained-volume measures. GDP is at market prices. Indices of sectoral output are at basic prices. The figures in parentheses show 2010 weights in gross value added.

Chart 3.2 Bank staff projection for near-term output growth^(a)



(a) Chained-volume measures. GDP is at market prices. The magenta diamond shows Bank staff's central projection for the preliminary estimate of GDP growth for Q2 at the time of the *May Report*. The green diamond shows the current staff projection for the preliminary estimate of GDP growth for Q3. The bands on either side of the diamonds show uncertainty around those projections based on staff estimates of the root mean squared errors of forecasts for quarterly GDP growth made since 2004. As the staff projections are for the preliminary estimates of GDP, they can differ from those used to construct the GDP fans, for example that shown in [Chart 5.1](#), because those fans are based on the MPC's best collective judgement of the final estimate of GDP.

3.1 Output

GDP growth continued to strengthen, and is estimated to have risen by 0.6% in Q2, following growth of 0.3% in Q1 ([Chart 3.1](#)). Growth in Q2 was largely accounted for by the service sector, where output is now back to its previous peak. Manufacturing and construction sector output also expanded, but remained well below pre-crisis levels. The preliminary estimate of GDP growth in Q2 was broadly in line with Bank staff projections at the time of the *May Report* ([Chart 3.2](#)).

There has been a broad-based pickup in survey measures of output in recent quarters. Indicators of expected output have risen further since the *May Report* ([Chart 3.3](#)) and point to robust growth in Q3. The staff projection for the preliminary estimate of GDP growth in 2013 Q3 is 0.5% ([Chart 3.2](#)). Outturns between 0.2% and 0.8% ([Chart 3.2](#)) would be consistent with past average errors. Generally, GDP data are subject to revision (see the box on page 20); the final estimate of Q3 GDP incorporated in the MPC's GDP fan chart is 0.6%.

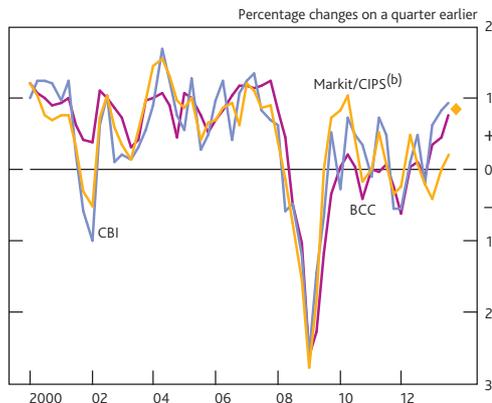
3.2 The labour market and productivity

Employment

Employment has been unusually robust since mid-2010 given the weakness of the recovery ([Chart 3.4](#)). Solid growth in private sector employment over the past three years has more than offset the fall in public sector employment, such that overall employment has risen markedly.

Private sector employment was, however, broadly flat in 2013 Q1. That led the four-quarter growth rate to slow, in line with the judgement underlying the projections in the *May Report*. Changes in employment reflect the difference between large gross flows into and out of employment: in 2012, employment growth reflected strong gross inflows and weak gross outflows ([Chart 3.5](#)). In 2013 Q1, however, there was a marked fall in the number of people moving into jobs and a rise in the number of people moving out of them,

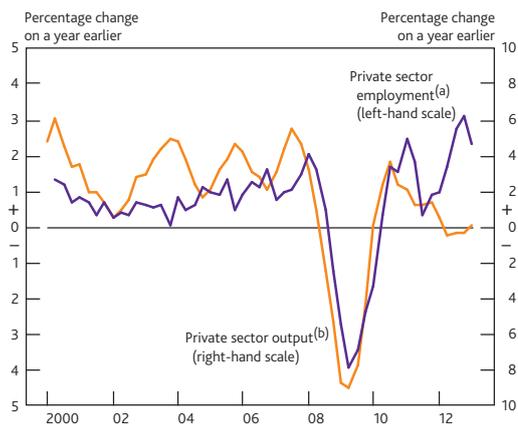
Chart 3.3 Survey indicators of expected near-term growth in manufacturing and services output^(a)



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

- (a) Aggregate measures of business expectations from the BCC, CBI and Markit/CIPS 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 Markit/CIPS orders (manufacturing) and business expectations (services). The BCC data are non seasonally adjusted. The aggregate measures have been adjusted to have the same mean and variance as quarterly GDP growth over the period 1999–2013 Q2. Survey indicators have been moved forward one quarter.
- (b) The diamond shows an estimate based on CIPS indices for July.

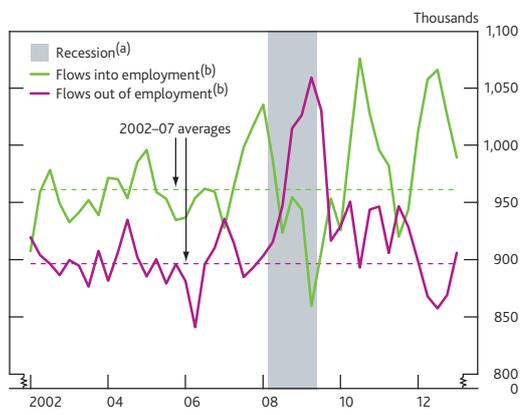
Chart 3.4 Private sector output and employment



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

- (a) LFS private sector employment. Calculated as the difference between LFS whole-economy employment and total public sector employment excluding publicly owned English further education corporations and sixth-form college corporations from the ONS's public sector employment release, adjusted to be on a calendar-quarter basis. Data start in 2000 Q2.
- (b) Market sector gross value added. Chained-volume measure at market prices.

Chart 3.5 Flows into and out of employment



Source: ONS (including the Labour Force Survey).

- (a) A recession is defined as at least two consecutive quarters of falling output (at constant market prices) estimated using the latest data. The recession is assumed to end once output began to rise.
- (b) Two-quarter moving averages.

bringing both of these flows closer to their pre-crisis averages. The latest data show that whole-economy employment increased a little in the three months to May, compared with the previous three months. Within that, the single-month employment rate in May was very weak, but that could reflect volatility due to sampling variability.

A further rise in private sector employment is expected to support overall employment over the next two quarters (Section 5). A range of survey indicators of employment intentions have picked up and, on average, suggest further employment growth. For example, according to the REC survey, companies' demand for permanent staff is at its highest in two years. But these surveys underestimated employment growth in 2012.

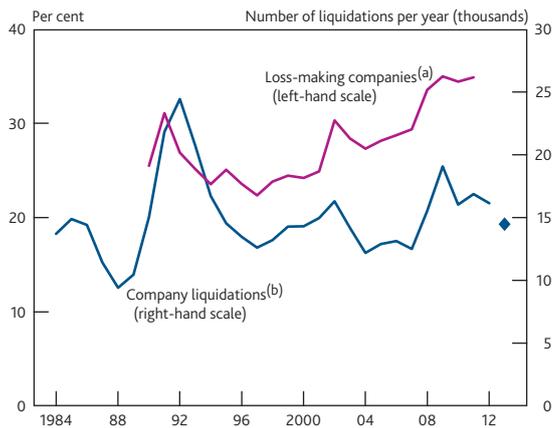
Labour productivity

Since mid-2010 the strength of private sector employment growth has contrasted with the weakness in private sector output growth (Chart 3.4). The corollary has been unusually weak growth in labour productivity, leaving private sector output per hour around 8% below its pre-crisis peak, and substantially below the level implied by an extrapolation of its pre-crisis trend. In 2013 Q1, private sector productivity growth picked up a little, broadly consistent with the *May Report* judgement.

The weakness in productivity in recent years probably reflects several factors. It is possible that current employment and output data together overstate the true weakness in productivity, which has become more pronounced following recent revisions to output data (see the box on page 20). But, based on patterns of past revisions, data mismeasurement could realistically only explain a small part of the shortfall of productivity relative to its pre-crisis trend. In addition, rates of productivity growth seen before the 2008/09 recession may not be a good guide to trends since then. For example, it seems unlikely that the strong growth in financial services productivity seen before the recession was sustainable.

More fundamentally, the weakness in productivity is likely to reflect a number of different factors. Some of these relate directly to the weakness of demand itself, implying that the productivity weakness may be temporary, and reverse fairly rapidly as demand recovers. But, to a certain extent, both the weakness of demand and the weakness of productivity are likely to have reflected a common influence, such as the fragility of the banking sector, or persistently heightened uncertainty. To the extent that that is the case, it is unclear how productivity will respond as demand recovers. It is possible that, as the impact of these common influences wanes, there could be a simultaneous recovery in demand and productivity. It is also possible, however, that the recovery in productivity could lag that in demand, perhaps materially so (Section 5).

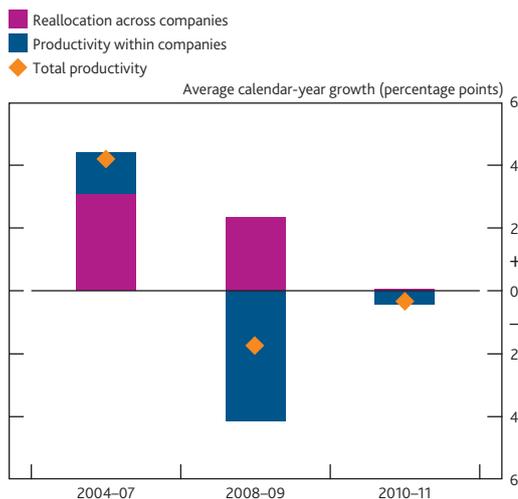
Chart 3.6 Company liquidations in England and Wales and an estimate of loss-making companies



Sources: Bureau van Dijk, The Insolvency Service and Bank calculations.

- (a) The number of companies that reported negative pre-tax profits in each year as a percentage of the total number of private non-financial companies in the Bureau van Dijk data set that report data on pre-tax profits. Companies in the mining and quarrying, electricity and gas supply, and water supply sectors and extra-territorial organisations are excluded from the calculations. Data are to 2011.
- (b) Changes to legislation, data sources and methods of compilation mean the statistics should not be treated as a continuous and consistent time series. Since the Enterprise Act 2002, a number of administrations have subsequently converted to creditors' voluntary liquidations. These liquidations are excluded from both the headline figures published by The Insolvency Service and the chart. The diamond for 2013 is based on data for Q1.

Chart 3.7 Contributions to productivity growth^(a)



Sources: ONS^(b) and Bank calculations.

- (a) Company-level data on private non-financial corporations, excluding those in the agriculture, mining and utilities sectors. The aggregate change in labour productivity across these companies is decomposed into changes in labour productivity within companies, and changes in productivity due to reallocation of resources across companies. Reallocation of resources is defined as shifts in employment shares between companies, as well as company births and deaths. The methodology is based on Baily, M, Bartelsman, J and Haltiwanger, J (2001), 'Labor productivity: structural change and cyclical dynamics', *The Review of Economics and Statistics*, Vol. 83, No. 4, pages 420-33. Aggregate data in this chart broadly match the ONS's Annual Business Survey, but do not match exactly due to differences in aggregation methods. Contributions may not sum to total productivity due to rounding, and small differences in coverage of companies across years.
- (b) This work contains statistical data from the ONS, which is Crown Copyright. The use of the ONS statistical data in this work does not imply the endorsement of the ONS in relation to the interpretation or analysis of the statistical data. This work uses research data sets that may not exactly reproduce National Statistics aggregates.

There are several reasons why the weakness of demand itself may have weighed on productivity. Despite weak demand, some businesses are likely to have retained staff who would be costly to replace, in anticipation of a return to more normal levels of demand. Other businesses may have needed a minimum number of staff to keep operating. In addition, for some, more staff effort may be needed to produce a certain level of output when demand is subdued. For example, the Bank's Agents report that business services companies have had to put more effort into winning and delivering work because of the persistent weakness in demand. These explanations imply that productivity, and hence the effective supply capacity of the economy, could respond quickly as demand recovers.

Weakness of demand is not the only factor likely to have been weighing on productivity, however. Other influences are also likely to have been important, and may have held back productivity by impeding the efficient reallocation of resources across the economy. Aggregate productivity growth comes not only from productivity gains within companies, but also from the reallocation of resources between companies and sectors — for example, as some companies go out of business, and newer, more dynamic ones take their place.

There are a number of influences that may have impeded the efficient allocation of resources. The low level of Bank Rate, and forbearance by HMRC and by banks could all have helped some companies facing weak demand for their goods and services to stay in business. That would be consistent with the observation that, since the start of the recession, the number of company liquidations has remained low, despite a pickup in the proportion of companies making a loss (Chart 3.6). Such support may have allowed some viable businesses to remain in operation through the prolonged period of weak demand. But other, less viable, businesses may find it hard to make a profit even when demand recovers.

Low Bank Rate and the prevalence of forbearance are not the only potential influences on the efficient reallocation of resources across the economy. The fragility of the banking sector and heightened uncertainty may also have been important, for example, by limiting the extent to which new companies have been able to secure finance. Company-level data provide some tentative support for the suggestion that there may have been impediments to the efficient reallocation of resources in the recent past. Reallocation of resources between companies is estimated to have made no contribution to productivity growth at all in 2010 and 2011, having contributed more than half of the United Kingdom's productivity growth in the four years prior to the recession (Chart 3.7). This data set does not cover previous recessions, however, so it is not clear whether this pattern of behaviour is specific to this recession.

Tighter credit conditions and heightened uncertainty could also be bearing down on productivity in other ways. In particular,

Equilibrium unemployment and labour market slack

The inflation outlook depends on the amount of slack in the economy — both within companies (Section 3.3) and in the labour market. The unemployment rate is one indicator of labour market slack. Due to frictions in the labour market there is always some unemployment in the economy. But what matters for monetary policy is the degree of effective labour market slack — that is, how much additional unemployment there is, and how much pressure that exerts on wages. To gauge the amount of inflationary pressure in the economy, the actual unemployment rate can be compared to estimates of the equilibrium rate, which will vary over time. The equilibrium rate is the rate that would prevail if nominal wages were fully flexible in the short run. This box sets out Bank staff estimates for different measures of equilibrium unemployment.

The equilibrium unemployment rate is affected by a range of factors that change over time

Wage pressures can arise for many reasons, including changes in the balance of demand and supply and changes in other cost pressures. But some factors will be more persistent than others, so the equilibrium unemployment rate will depend on the horizon being considered.

In the short run, real wages can be slow to adjust to factors such as a deterioration in the terms of trade, leading to an increase in the equilibrium unemployment rate. But once that adjustment is complete, the equilibrium rate will fall back. To the extent that policymakers want to look through the impact of these factors when setting monetary policy, the short-run equilibrium rate is not the most relevant measure for monetary policy.

Once those transitory factors have washed out, there may be other temporary, but persistent, factors that determine the impact that labour market slack has on inflationary pressure. In particular, persistent weakness in demand can mean that more people will remain in unemployment for some time. The longer that people are out of work, the more their skills will deteriorate and as a result, the probability of them finding a job decreases — those who have been unemployed for over a year are, on average, around a third as likely to find work as the short-term unemployed. That is likely to mean that they will exert less downward pressure on wages and so the equilibrium unemployment rate in the medium term will remain elevated. The gap between actual unemployment and the medium-term equilibrium unemployment rate is a measure of effective slack in the labour market, and is likely to be most relevant for assessing wage pressures over the MPC's three-year forecast period.

As the medium-term equilibrium unemployment rate depends on the composition of unemployment it will change over time. In particular, as demand recovers, the number of long-term unemployed, and hence that equilibrium rate, should fall back, although that is likely to take time as some people may need to re-train or move in order to fill the available vacancies.

Once all of the temporary factors have dissipated, the equilibrium unemployment rate will fall back to the long-run equilibrium rate. This measure captures the amount of unemployment that is present in an economy because it takes time for people to find the right jobs. It is determined by the structural characteristics of the labour market.

The factors shaping the labour market in the long run include the extent to which potential employees are aligned with vacancies in terms of skills, location and occupation as this determines how long it might take companies to fill those vacancies. The benefit regime will also affect structural unemployment as it defines people's alternative to working. Labour market flexibility — in terms of hiring and firing, and in offering people the option of part-time working or self-employment — affects people's willingness to work and companies' willingness to offer jobs. And the influence of trade unions has an effect on wage-bargaining power. The long-run equilibrium rate can change over time as the underlying structural factors of the labour market change, but this tends to be a very slow process.

Empirical estimates suggest that a margin of effective labour market slack persists

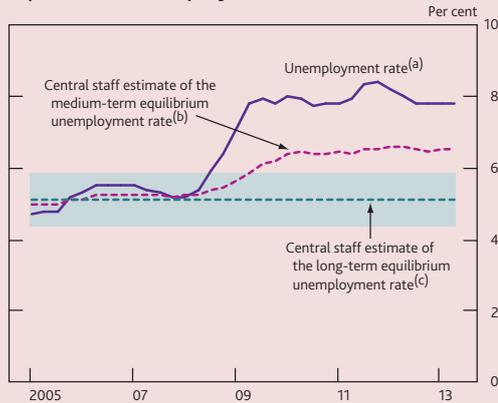
There is considerable uncertainty around any estimate of the equilibrium unemployment rate at different horizons.

Evidence on job-finding rates and job creation suggests that the natural rate was just over 5% in the run-up to the 2008/09 recession (**Chart A**). Since then, it is likely to have been broadly flat. The response of job-finding rates to the downturn has been in line with pre-crisis labour market dynamics. And a range of structural factors suggest little evidence that the long-run equilibrium rate has changed. There are large error bands around any such estimate. Nevertheless, the current unemployment rate is likely to be well above its long-run equilibrium.

The medium-term equilibrium rate is likely to be significantly above the long-term equilibrium rate. The unemployment rate has now remained elevated for five years, and the proportion of unemployed people who are long-term unemployed has increased from just over 20% in the pre-crisis period from 2000 to 2007 to around 35% in 2013.

One way of calculating an estimate of the medium-term equilibrium unemployment rate is to use the different

Chart A The unemployment rate and measures of the equilibrium unemployment rate



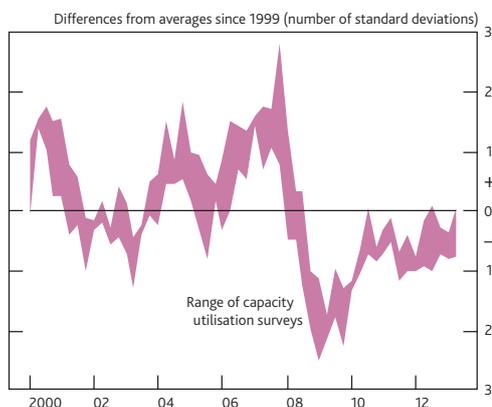
- (a) Percentage of the economically active population. Quarterly data except for the final data point, which shows data for the three months to May 2013.
- (b) This proxy measure is based on a simple calculation rather than an estimated model, so there are no associated errors bands to reflect estimation uncertainty, but there is considerable uncertainty about how well this proxy measure captures the medium-term equilibrium unemployment rate.
- (c) The swathe around the central staff estimate of the natural rate reflects uncertainty about the parameters in the estimated model, but does not capture uncertainty about model misspecification. The true uncertainty is likely to be much larger.

probabilities of finding a job for the short and long-term unemployed as a proxy for the extent to which they exert pressure on wages. That suggests a medium-term equilibrium rate of around 6½% (**Chart A**). With the unemployment rate remaining elevated at 7.8% in May, that implies effective labour market slack of just under 1½ percentage points. This method of calculating the medium-term measure of equilibrium unemployment is only a proxy for the downward pressure on wages associated with unemployment at each point in time, so there is considerable uncertainty around such an estimate. Reflecting that uncertainty, this is only one input into the range of indicators used by the MPC to gauge the amount of slack in the economy (Section 3).

these factors have held back business investment since the start of the crisis, meaning that the capital stock, and as a result the capital-labour ratio, has grown by less than would otherwise have been the case. All else equal, that should imply weaker labour productivity. Tighter credit conditions and heightened uncertainty may have also held back innovation: the UK innovation survey suggests that between 2008 and 2010, the number of innovative products and processes introduced by companies fell relative to the pre-crisis period. A recovery in the banking sector and waning uncertainty should also help support a recovery in investment and innovation. But it will take time for that to filter through to productivity.

The weakness in productivity reflects a combination of the factors discussed above. On balance, the MPC expects that four-quarter productivity growth will rise steadily as demand growth picks up, conditions in the banking sector improve and uncertainty lessens (Section 5).

Chart 3.8 Survey indicators of capacity utilisation^(a)



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

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

3.3 Indicators of spare capacity

Capacity utilisation

Survey indicators suggest that the margin of spare capacity within companies has narrowed markedly since 2009 (**Chart 3.8**), despite the weakness of demand and productivity. The narrow margin of spare capacity could reflect short-lived constraints on companies' capacity to produce output. For example, those companies temporarily diverting resources away from production to winning business (Section 3.2) are likely to report little spare capacity despite being able to increase output using their existing resources were demand to increase. But the relatively narrow margin of capacity could also reflect more durable constraints on companies' ability to supply or the possibility that some supply capacity has been lost due to companies downsizing in response to weak demand

Table 3.A Selected indicators of labour market slack

	Averages				2013	
	1998–2007 ^(a)	2010	2011	2012	Q1	Q2
LFS unemployment rate ^(b)	5.3	7.9	8.1	8.0	7.8	7.8
Long-term unemployment rate ^{(b)(c)}	1.3	2.5	2.7	2.8	2.8	2.8
Claimant count unemployment rate	3.2	4.6	4.7	4.8	4.6	4.5
Weighted non-employment rate ^{(b)(d)}	7.6	9.4	9.5	9.3	9.2	9.2
Part-time workers who could not find full-time work ^{(b)(e)}	2.2	3.8	4.3	4.8	4.7	4.9
Bell and Blanchflower measure of underemployment ^(f)	5.0	9.4	9.8	9.9	9.8	n.a.
Vacancies/unemployed ratio ^{(b)(g)}	0.41	0.19	0.18	0.19	0.20	0.21

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

(a) Unless otherwise stated.

(b) The figure for 2013 Q2 shows data for the three months to May.

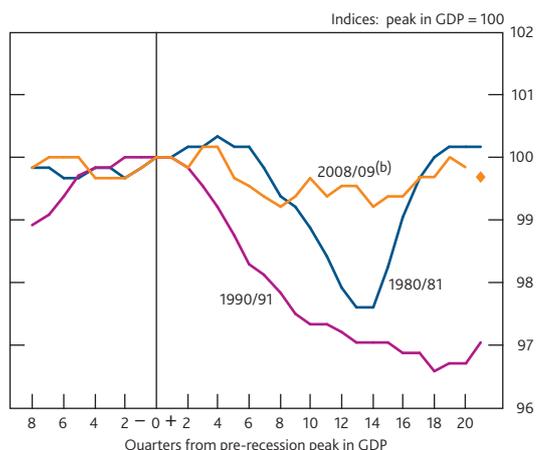
(c) Defined as those people who have been unemployed for more than twelve months divided by the economically active population.

(d) Percentage of the 16–64 population. This measure weights together different types of non-employed by the 1998–2007 averages of quarterly transition rates of each group into employment derived from the LFS.

(e) Number of people reporting to the LFS that they are working part-time because they could not find a full-time job, as a percentage of LFS total employment.

(f) Unemployment adjusted for the difference between actual and desired working hours of those in work. Estimates provided by Bell and Blanchflower, based on Bell, D and Blanchflower, D (2013), 'How to measure underemployment?', *Peterson Institute for International Economics Working Paper No. 13-7*. Average since 2001 Q2.

(g) Number of vacancies (excluding agriculture, forestry and fishing) divided by LFS unemployment. Average is since 2001 Q2. A higher value typically implies less slack.

Chart 3.9 Participation rate compared with previous recessions^(a)

Source: ONS (including the Labour Force Survey).

(a) Percentage of the 16+ population. Three-month rolling measure. Recessions are defined as in **Chart 3.5**.

(b) The diamond shows an estimate for 2013 Q2 based on data for the three months to May.

or company liquidations, even though that channel has been relatively muted so far (Section 3.2).

Labour market slack

In the three months to May 2013, the Labour Force Survey (LFS) unemployment rate was 7.8% (**Table 3.A**), 0.1 percentage points lower than at the time of the *May Report*, and in line with the judgement at that time of a small fall. In Q2 as a whole, Bank staff project the unemployment rate to be 7.9%.

One reason why unemployment has been persistently high, despite robust employment growth, is that participation — the number of people in work or actively seeking employment — has held up (**Chart 3.9**). Delayed retirement by older people has supported participation, partly offsetting the downward trend from an ageing population.⁽¹⁾ In addition, some of those who were previously inactive have joined the labour force, prompted, for example, by changes to the benefits regime. In the three months to May, the participation rate fell back a little (**Chart 3.9**), but that fall could prove erratic.

A measure of labour market slack relevant for monetary policy is the gap between the unemployment rate and a medium-term measure of the equilibrium rate of unemployment (see the box on pages 28–29). That gap is currently just under 1½ percentage points, suggesting that a margin of effective labour market slack persists (Section 5).

Measures other than the unemployment rate also point to a margin of slack (**Table 3.A**). Weighted non-employment — which takes into account people who are currently inactive, but who may want to try to find work in the future, by weighting different groups by the rates at which they have moved into jobs in the past — suggests that the margin of slack remains wide relative to pre-crisis levels. The proportion of those employed who are working part-time because they could not find a full-time job remains higher than before the 2008/09 recession. And an 'underemployment' measure that takes into account how many hours people would like to work relative to how many they are currently working also points to a substantial margin of slack.

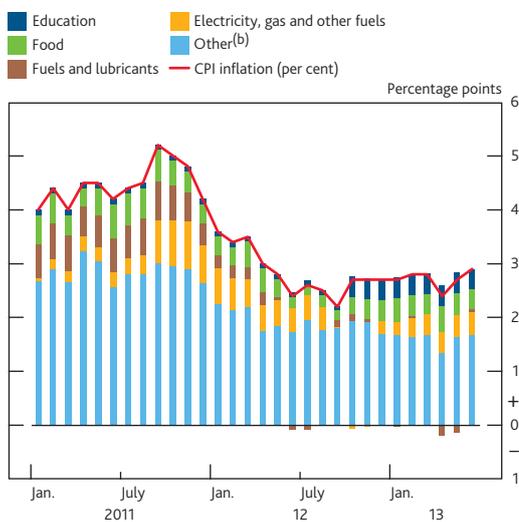
There is considerable uncertainty surrounding the outlook for unemployment as it depends not only on the outlook for demand, but also on prospects for labour market participation and productivity. Companies' labour demand may be limited if productivity growth picks up with demand. If that is the case, then companies should be able to meet any extra demand with existing resources and should not need to hire more staff to produce additional output, at least initially. If, however, the participation rate were to fall back, a recovery in demand could be associated with a greater fall in unemployment. The MPC expects the unemployment rate to edge down, but it is likely to remain above 7.5% in 2013 (Section 5).

(1) For more information see the box on page 27 of the *May 2013 Report*.

4 Costs and prices

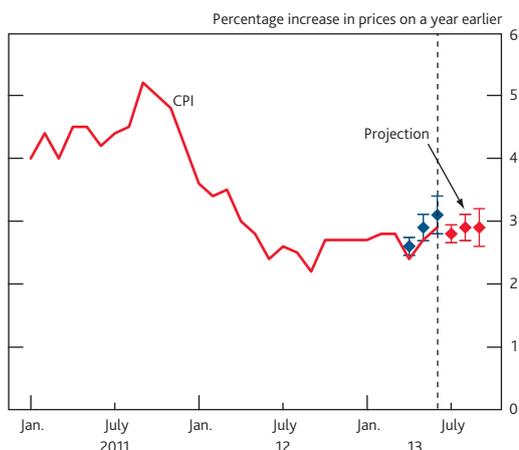
CPI inflation rose to 2.9% in June from 2.8% in March. Inflation is expected to remain around this level in the near term. Unit labour costs fell in 2013 Q1, in part reflecting temporary weakness in earnings, which unwound in April and May. Company profit margins still appeared squeezed. Indicators of inflation expectations were little changed.

Chart 4.1 Contributions to CPI inflation^(a)



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

Chart 4.2 Bank staff projection for near-term CPI inflation^(a)



(a) The blue diamonds show Bank staff's central projection for CPI inflation for April, May and June at the time of the *May Inflation Report*. The red diamonds show the current staff projection for July, August and September. The bands on each side of the diamonds show the root mean squared error of projections for CPI inflation one, two and three months ahead made since 2004.

CPI inflation rose slightly in 2013 Q2, as anticipated at the time of the *May Report* (Section 4.1). Although the near-term outlook for inflation is slightly lower than expected three months ago, inflation is likely to remain above the MPC's 2% target during the rest of 2013 and 2014. The path of inflation will be influenced by the evolution of import costs and global prices (Section 4.2), labour costs (Section 4.3) and inflation expectations (Section 4.4).

4.1 Consumer prices

CPI inflation remained above the MPC's 2% target in 2013 Q2, with inflation rising a little to 2.9% in June from 2.8% in March (**Chart 4.1**). CPIH inflation — a recently introduced index of consumer price inflation that includes a measure of owner-occupiers' housing costs — also picked up a touch, but remained lower than CPI inflation at 2.7% in June.⁽¹⁾

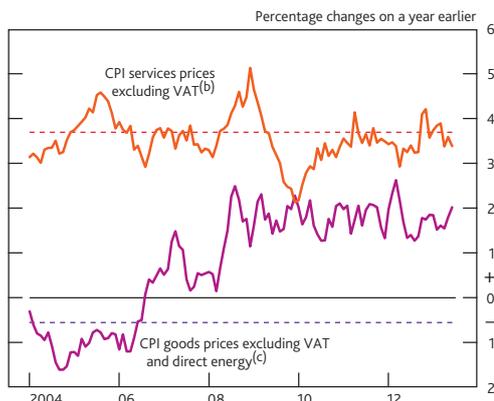
Inflation in June was boosted by clothing and footwear prices, which exhibited a smaller seasonal decline this June than last. Some of the rise in CPI inflation during Q2 also reflected the effect of the reductions in energy bills and petrol prices that occurred in 2012 Q2 dropping out of the twelve-month comparison.

The near-term outlook for CPI inflation (**Chart 4.2**) is slightly lower than at the time of the *May Report*. This reflects a degree of unexpected weakness in the prices of a number of goods and services within the CPI basket since the previous *Report*, although it is too early to judge whether this weakness signals anything about the likely strength of inflation beyond the near term. This news was partly offset by an increase in oil prices, which is likely to lead to higher petrol price inflation.

It remains probable that CPI inflation will stay a touch below 3% over the coming months (**Chart 4.2**), and above 2% for the remainder of 2013 and 2014. The key factors holding

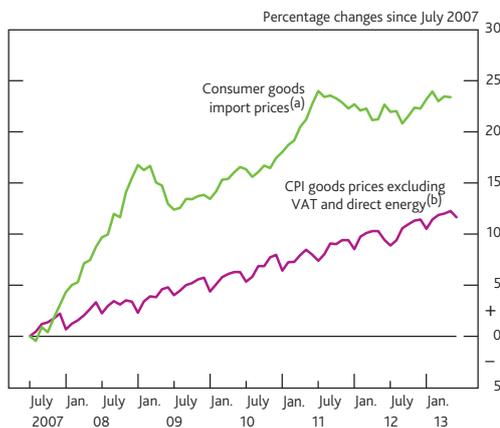
(1) For more information on this new measure, see www.ons.gov.uk/ons/guide-method/user-guidance/prices/cpi-and-rpi/introducing-the-new-cpih-measure-of-consumer-price-inflation.pdf.

Chart 4.3 CPI services prices excluding VAT and CPI goods prices excluding energy and VAT^(a)



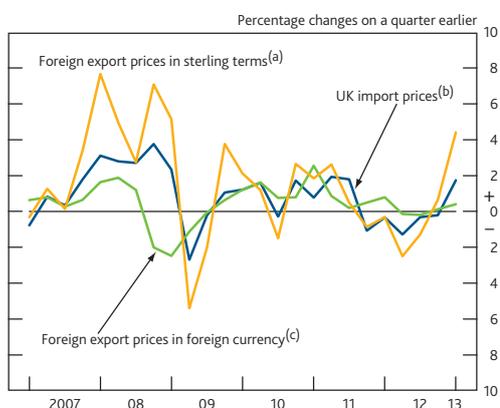
- (a) Dashed lines are 1997–2007 averages.
 (b) Excludes staff estimates of the impact of VAT changes.
 (c) Excludes staff estimates of the impact of VAT changes and the contribution of domestic energy and fuel.

Chart 4.4 Consumer goods import prices and CPI goods prices excluding energy and VAT



- (a) Combined import price deflator for food, cars and other consumer goods. Data are available to May 2013.
 (b) Excludes staff estimates of the impact of VAT changes and domestic energy and fuel prices. Data are non seasonally adjusted.

Chart 4.5 UK import prices and foreign export prices excluding oil



Sources: Bank of England, CEIC, Eurostat, ONS, Thomson Reuters Datastream and Bank calculations.

- (a) Domestic currency non-oil export prices of goods and services of 52 countries weighted according to their shares in UK imports, divided by the average sterling effective exchange rate index over the quarter. The sample does not include any major oil exporters. The observation for 2013 Q1 is an estimate, with export prices for Croatia, Pakistan, the Philippines and Turkey assumed to grow at the same rate as export prices in the rest of the world excluding the euro area and the United States.
 (b) Goods and services excluding fuels deflator, excluding the impact of MTIC fraud.
 (c) Domestic currency non-oil export prices of goods and services of 52 countries, as defined in footnote (a).

inflation above the target are the unusually large contribution of administered and regulated prices, and the continued pass-through of import costs into CPI (Section 4.2).⁽¹⁾

4.2 Import costs and global prices

Non-energy import costs

Unusually rapid increases in import prices have been a major contributor to the strength of CPI inflation since 2008. One indication of this is the marked narrowing of the wedge between goods and services inflation: on average, goods are more import-intensive than services. In June, services price inflation was broadly in line with its average prior to sterling's 2007/08 depreciation, but goods price inflation (excluding energy) remained more than 2 percentage points above its historical average (Chart 4.3).

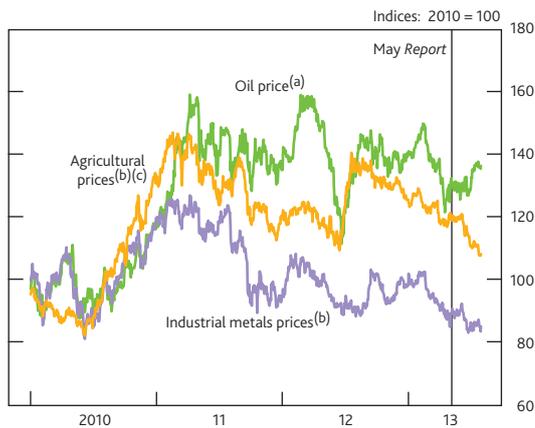
Excluding energy, import and consumer goods prices were broadly flat in the years leading up to sterling's depreciation. Since then, imported consumer goods prices have risen by more than 20%, while non-energy CPI goods prices have risen by more than 10% (Chart 4.4). Import costs account for around half of CPI goods prices, so these movements suggest that retailers have gone some way towards adjusting prices to compensate for rising import costs. But businesses have also faced other cost shocks over this period, including from higher energy prices, so there could be some further upward pressure on goods prices from import prices to come.

Having declined over 2012, UK import prices rose in 2013 Q1, reflecting a fall in sterling around the beginning of the year (Chart 4.5). Foreign export price inflation fell over 2012 and has remained subdued, with supply chain pressures from past rises in oil and other commodity prices likely to have abated at least to some degree (Chart 4.6).

Non-energy commodity prices

Non-energy commodity prices have fallen since the *May Report* (Chart 4.6). Weaker demand in emerging economies in Q1, with further slowing in China in Q2 (Section 2), has been reflected in falling industrial metals prices, which are 3% lower than at the time of the *May Report*. Global agricultural commodities prices have fallen by around 8%, largely reflecting growing optimism about this year's US harvests. Movements in agricultural commodity prices, which were also lower in sterling terms, tend to lead movements in UK consumer food prices by around six months. However, food manufacturers may exploit the recent falls in agricultural prices to increase their profit margins; the Bank's Agents have reported that these have been under pressure.

(1) For more on administered and regulated prices, see the box on pages 36–37 of the February 2013 *Inflation Report*.

Chart 4.6 US dollar oil and commodity prices

Sources: Bloomberg, S&P indices and Thomson Reuters Datastream.

- (a) US dollar Brent forward prices for delivery in 10–21 days' time.
 (b) Calculated using S&P US dollar commodity price indices.
 (c) Total agriculture and livestock S&P commodity index.

Energy prices

Along with other import prices, energy costs have had a substantial impact on consumer prices in recent years, and will continue to be an important influence on the path of inflation. Energy prices affect CPI inflation directly, for example through fuel prices and household energy bills, and indirectly, through their impact on businesses' costs.

US dollar oil prices were around 7% higher in the run-up to the August *Report* than they were ahead of the May *Report* (Chart 4.6) despite the slowdown in emerging-economy growth. In large part, this reflects the re-emergence of political tensions in the Middle East. Sterling spot oil prices rose slightly more. Market participants did not envisage a long-lasting impact on prices from these tensions, however, a view reflected in the more pronounced downward slope of oil futures curves. Sterling oil futures prices are only 3% higher on average over the MPC's forecast period, than at the time of the May *Report*.

Developments in extraction technology have the potential to influence current and future energy prices. Extraction via hydraulic fracturing techniques has led to a rapid increase in US oil and gas production, by reducing the cost of accessing reserves of tight oil and shale gas. This extra prospective supply capacity could act to dampen oil price rises in the face of future increases in demand or reductions in supply. But it is unlikely that it will put dramatic downward pressure on oil prices, because extraction costs remain high relative to more established methods, and because OPEC could limit falls in prices by reducing production.

In addition, the impact of US shale gas production on UK gas prices is unlikely to be large because of the geographical segmentation of the world gas market, resulting from limited scope for the transportation of liquefied natural gas. The scale and timing of any potential boost to supply from domestic reserves of shale gas is, as yet, unclear.

Gas spot and futures prices have been little changed since the previous *Report*. Domestic energy prices paid by households and companies are influenced not only by wholesale gas prices but also by suppliers' non-energy costs, such as the amount that they have to contribute to the maintenance of distribution networks. These non-energy costs have risen significantly in recent years. Even without increases in wholesale energy prices, the MPC's projections assume that increases in non-energy costs lead suppliers to raise domestic energy prices by around 5% in the autumn this year and by the same amount in the next two years, the same assumption as in the MPC's May projections.

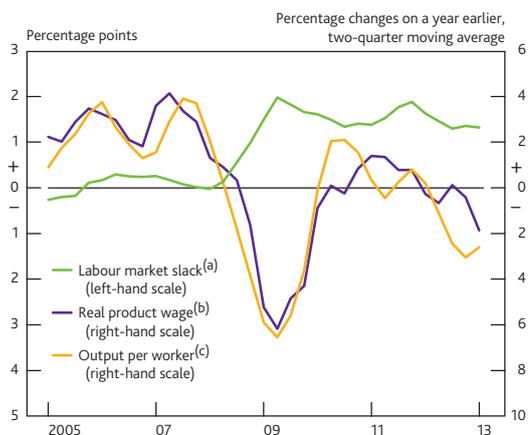
Table 4.A Private sector earnings^(a)

	Averages			2013	
	2001–07	2008 Q3–2010 Q2	2010 Q3–2012	Q1	May ^(b)
(1) Total AWE	4.3	0.7	2.0	0.1	3.4
(2) Regular pay ^(c)	3.9	1.6	2.0	0.8	1.3
(1)–(2) Bonus contribution ^(d)	0.4	-0.9	0.0	-0.7	2.1
Pay settlements ^(e)	3.3	2.5	2.1	2.0	2.1

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

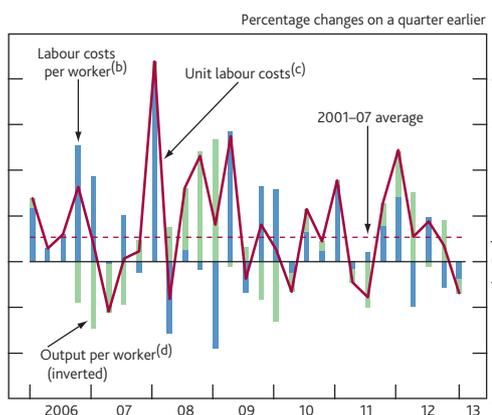
- (a) Based on quarterly data unless otherwise stated.
 (b) Data in the two months to May.
 (c) Total pay excluding bonuses and arrears of pay.
 (d) Percentage points.
 (e) Average over the past twelve months, based on monthly data.

Chart 4.7 Real product wages, labour market slack and productivity



- (a) This is a central staff estimate, around which there is considerable uncertainty. See Section 3 box on equilibrium unemployment and labour market slack on pages 28–29.
 (b) Private sector AWE total pay deflated by the market sector gross value added deflator.
 (c) Market sector output per worker.

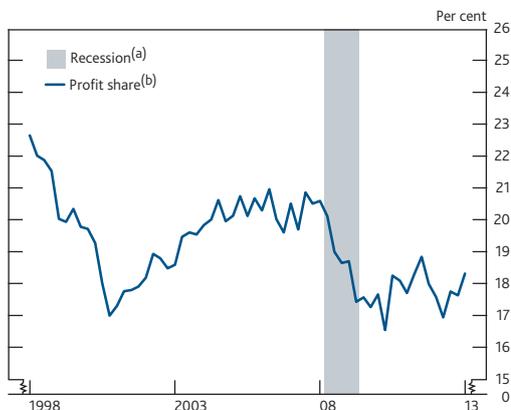
Chart 4.8 Contributions to private sector unit labour costs^(a)



Sources: ONS and Bank calculations.

- (a) Contributions do not sum to total due to the method of calculation.
 (b) Calculated using private sector AWE data adjusted using the ratio of private sector employee compensation to wages and salaries.
 (c) Estimated labour costs per worker as defined in footnote (b) divided by market sector output per worker.
 (d) Quarterly growth in market sector output per worker, inverted.

Chart 4.9 Private sector corporate profit share



Sources: ONS and Bank calculations.

- (a) A recession is defined as at least two consecutive quarters of falling output (at constant market prices) estimated using the latest data. The recession is assumed to end once output began to rise.
 (b) Private sector corporates' gross trading profits (excluding the alignment adjustment), divided by nominal gross value added at basic prices, excluding general government gross operating surplus and central government and local authority compensation of employees. Central government and local authority compensation have been seasonally adjusted by Bank staff.

4.3 Labour costs and company profits

The path of inflation in part depends upon developments in companies' labour costs. The measure of labour costs that has most bearing on companies' pricing decisions is the cost of each unit of output produced — the unit labour cost — which is determined by developments in both productivity (Section 3) and wages.

Average weekly earnings (AWE) growth has been volatile this year, rising from 0.1% in Q1 to 3.4% in the three months to May (Table 4.A). That volatility has largely been caused by changes in bonuses, but regular pay has also been affected.

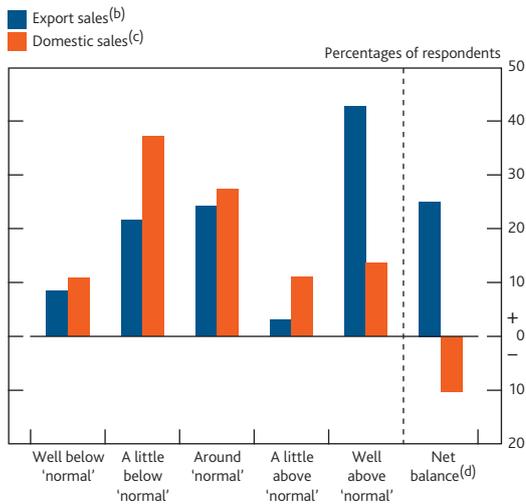
The reduction in the top rate of UK income tax is one factor that helps to explain the pattern of both bonus payments and regular pay growth since the beginning of 2013. In March 2012, it was announced that in April 2013 the top rate of income tax would fall from 50% to 45%. It is likely that some individuals were able to defer earnings that they would have otherwise received in 2013 Q1 to take advantage of that tax change. Based on Bank staff estimates, it is plausible that underlying private sector regular pay growth has remained close to 1% since the start of the year. So although measured private sector regular pay growth is likely to pick up in Q2, almost all of that pickup may be the result of this effect unwinding. The MPC expects four-quarter regular pay growth of around 1% on average in 2013 H2 (Section 5).

Regular pay growth of close to 1% is weaker than the post-recession average rate of just under 2%. Although labour market slack is a key factor keeping wage growth below more typical rates of around 4%, there is little evidence that slack has increased substantially over the recent past (Section 3). It therefore seems more likely that the slowing in wage growth is associated with the step down in productivity growth seen in 2012. Indeed real product wages — a measure of wages relative to the prices that companies charge for their output — fell broadly in line with output per worker (Chart 4.7). That could reflect companies responding to faltering output per worker by bearing down on pay. But the observed combination of weak wages and lower output per worker could also reflect people becoming more willing to accept pay restraint, encouraging companies to employ more people.

Subdued wage growth has resulted in lower private sector unit labour cost growth (Chart 4.8). Unit wage cost growth is expected to pick up in Q2, however, as the erratic weakness in Q1 earnings is likely to be followed by erratic strength in Q2. The MPC expects four-quarter unit labour cost growth, on average, to be flat to modestly negative in 2013 H2 (Section 5).

The aggregate private sector profit share rose in Q1 as labour costs fell, but remains below its pre-recession average level

Chart 4.10 Agents' survey: profit margins compared to normal^(a)



- (a) The survey was conducted by the Bank's Agents between 17 May and 19 June 2013, 406 firms with aggregate turnover of £61 billion took part. Respondents were asked, 'How would you describe your current profit margin?'.
 (b) Weighted average of responses from companies reporting some export sales, weighted by company turnover and proportion of sales that are exported.
 (c) Weighted average of responses from all firms, weighted by company turnover and the proportion of sales that are domestic.
 (d) Percentages reporting above normal margins less percentages reporting below normal margins.

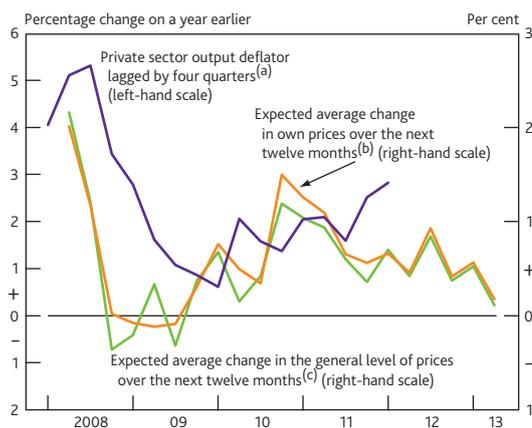
(Chart 4.9). Evidence from an Agents' survey on profit margins also suggests that margins have risen over the past year.⁽¹⁾ But those aggregate results mask a distinction between export-facing businesses, whose profits have been supported by the depreciation of the real exchange rate relative to its pre-2007 level, and domestic-facing companies, whose margins have been compressed (Chart 4.10). The latter are more relevant for the outlook for consumer prices.

To the extent that domestic margins are currently below sustainable levels, some further rise in margins may be necessary. Some of that restoration of margins could occur through a reallocation of resources across companies, from less profitable businesses to those that are more profitable. But it could also happen by companies raising prices by more than costs, or reducing their cost base. According to the Agents' survey, fewer than 5% of companies reporting below-normal margins expected them to return to normal within the next year. In most cases, companies also reported that they expected to restore margins primarily through improving productivity, with far fewer expecting to do so by raising prices.

4.4 Inflation expectations and business pricing intentions

The pace at which inflation falls back from its current rate will depend, in part, on movements in inflation expectations and how these affect the behaviour of those setting prices and wages. For example, if businesses expect stronger overall inflation, and higher price rises by their competitors as a result, they may be more inclined to instigate larger price increases themselves. They may also be more willing to sanction higher pay growth, if they think this can be recouped via higher prices.

Chart 4.11 Companies' expected changes in prices and private sector output deflator



Sources: CBI and ONS.

- (a) Private sector output deflator is based on market sector gross value added.
 (b) Companies are asked: 'What percentage change is expected to occur over the next twelve months in your own average output price for goods sold into UK markets?'. CBI data for the manufacturing, business/consumer services and distribution sectors, weighted together using nominal shares in value added.
 (c) Companies are asked: 'What percentage change is expected to occur over the next twelve months in the general level of prices in the markets that you compete in?'. For details on the construction of the series shown, see footnote (b).

CBI survey data suggest that companies' near-term pricing expectations fell in Q2 (Chart 4.11). Since the previous Report, households' short-term inflation expectations also appear to have fallen to a degree, with some household surveys indicating that expectations are close to their pre-2008 averages (Table 4.B). Despite the volatility in government bond markets since May, one year ahead expectations derived from financial market prices were little changed.

As set out in the box on page 7, the MPC's policy guidance is subject to conditions on price stability and financial stability being met. The box on pages 36–37 considers evidence on one of the price stability conditions: whether medium-term inflation expectations remain sufficiently well anchored. In line with analysis of inflation expectations in the previous Report, it concludes that most indicators of medium-term

(1) See the box on page 6 of the Bank's July 2013 Agents' Summary of Business Conditions.

Monitoring medium-term inflation expectations

CPI inflation has been above the 2% target for most of the past five years, and the MPC’s latest assessment is that it is more likely than not to remain above the target for much of the next two (Section 5). There is a risk that the prolonged period of above-target inflation will cause households’, businesses’ and financial market participants’ inflation expectations to drift away from the target. As set out in the box on page 7, the MPC’s policy guidance is subject to conditions on price stability and financial stability being met. This box considers evidence on one of the price stability conditions: whether medium-term inflation expectations remain sufficiently well anchored. The MPC has three main metrics for monitoring this: the level of inflation expectations relative to target; the sensitivity of expectations to news about the economy; and uncertainty about inflation.

A box on pages 36–37 of the *May Inflation Report* that analysed developments in these metrics concluded that indicators of households’ and professional forecasters’ inflation expectations still appeared consistent with the inflation target, although there was tentative evidence that expectations derived from financial markets had become more sensitive to news about the economy over the preceding year.⁽¹⁾ This box shows that those conclusions remain intact and, overall, the MPC continues to judge that inflation expectations remain consistent with inflation meeting the 2% target.

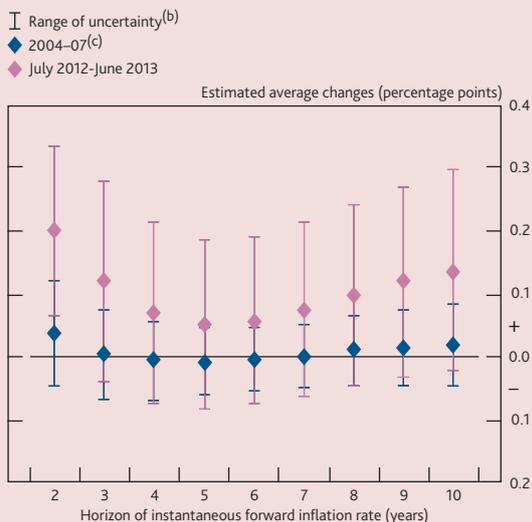
The level of inflation expectations relative to target

There are few signs that professional forecasters’ and households’ two to three year ahead expectations have risen in recent months. Indeed, survey indicators suggest that households’ expectations fell in Q2 (Table 4.B). Indicators of households’ five to ten year ahead inflation expectations have also remained around their post-2008 averages since the *May Report* (Table 4.B). But because most of these measures have only a short backrun, covering a period when inflation averaged above the target, it is not clear if those averages are consistent with inflation being close to the target in the medium term.

Indicators of inflation expectations implied from financial instruments referencing RPI inflation — such as inflation swaps — reflect not only expected CPI inflation but also market participants’ views about the future gap between RPI and CPI inflation, together with a risk premium to compensate for uncertainty about future inflation. An indicator of expected inflation three years ahead implied from swaps was around 3.0% in the run-up to the *August Report*, broadly unchanged since the *May Report*. Five to ten years ahead expected inflation implied from swaps was similarly unchanged since

May at around 3.5%. Gilt-based measures provide a similar picture. Market contacts continued to report that this was consistent with participants expecting CPI inflation to be around the target.

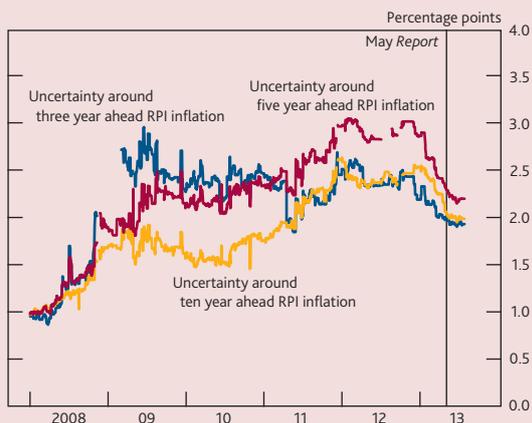
Chart A Estimated average changes in instantaneous forward inflation rates derived from swaps in response to CPI news^(a)



Sources: Bloomberg, ONS and Bank calculations.

- (a) The average changes are the estimated slope coefficients from regressions of the change in instantaneous forward inflation rates at each horizon on news in the CPI release, on the day on which CPI data were published. News is measured as the difference between the data outturn and the Bloomberg median forecast.
- (b) The bars cover two standard errors on either side of the estimated slope coefficients for September 2004–December 2007 (blue) and July 2012–June 2013 (pink).
- (c) Estimated slope coefficients for September 2004–December 2007.

Chart B Indicators of uncertainty about future inflation^(a)



Sources: Bloomberg, ONS and Bank calculations.

- (a) Standard deviation of the probability distribution of annual RPI outturns for five years and ten years ahead implied by options. It is not possible to construct a full set of probability distributions for some days due to technical reasons.

Sensitivity to news

There remains, however, tentative evidence that inflation expectations derived from financial markets have become more sensitive to economic news. One way of assessing that sensitivity is to examine how measures of expected inflation derived from financial markets change in response to

CPI inflation news on the day of publication. The diamonds in **Chart A** show the average change in expected inflation at different horizons for the period between 2004 and 2007 (in blue), and for the period between July 2012 and June 2013 (in pink). Inflation expectations appear to have been a little more responsive to CPI data news over the past twelve months than they were between 2004 and 2007, albeit with wider standard errors around the estimates covering the more recent period (**Chart A**). One tentative explanation is that this might reflect recent financial market volatility (Section 1). But it could also indicate an increase in the risks to inflation expectations, if, for example, these results reflect a belief among market

participants that the MPC has become more tolerant of deviations of inflation from the 2% target.

Uncertainty

Market-based measures of uncertainty about expected inflation have stabilised since May, albeit at a higher level than in 2008 (**Chart B**).

(1) For further analysis, see also Maule, B and Pugh, A (2013), 'Do inflation expectations currently pose a risk to the economy?', *Bank of England Quarterly Bulletin*, Vol. 53, No. 2, pages 110–21.

Table 4.B Indicators of inflation expectations^(a)

Per cent	2000 (or start of series) to 2007 averages ^(b)	Averages since 2008	2011	2012	2013		
					Q1	Q2	Q3 ^(c)
One year ahead inflation expectations							
Households^(d)							
Bank/NOP	2.3	3.4	4.1	3.5	3.6	3.6	n.a.
Barclays Basix	2.8	3.3	4.0	3.1	3.1	2.6	n.a.
YouGov/Citigroup (Nov. 2005)	2.5	2.8	3.4	2.7	2.8	2.5	n.a.
Companies (June 2008)^(e)	n.a.	0.5	0.7	0.6	0.5	0.1	n.a.
Financial markets (Oct. 2004)^(f)	2.4	2.4	3.2	2.5	3.0	2.7	2.9
Two to three year ahead expectations^(g)							
Households							
Bank/NOP (Mar. 2009)	n.a.	2.9	3.4	3.1	3.4	3.3	n.a.
Barclays Basix	3.2	3.4	4.0	3.3	3.5	2.8	n.a.
Professional forecasters (June 2006)^(h)	2.0	2.0	2.2	2.1	2.1	2.2	2.1
Financial markets (Oct. 2004)^{(f)(i)}	2.6	2.7	3.1	2.6	3.1	3.0	2.9
Five to ten year ahead expectations^(j)							
Households							
Bank/NOP (Mar. 2009)	n.a.	3.3	3.5	3.4	3.6	3.6	n.a.
Barclays Basix (Sep. 2008)	n.a.	3.8	3.9	3.9	3.6	3.5	n.a.
YouGov/Citigroup (Nov. 2005)	3.5	3.4	3.6	3.4	3.5	3.3	n.a.
Financial markets (Oct. 2004)^{(f)(k)}	3.0	3.5	3.3	3.1	3.4	3.5	3.5
Memo: CPI inflation	1.6	3.2	4.5	2.9	2.8	2.7	n.a.

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

Note: Due to an error, footnote (i) was incorrectly labelled as 'Three-year forward RPI inflation implied by swaps' in the printed version of the *Report*.

(a) Data are non seasonally adjusted.

(b) Dates in parentheses indicate start date of data series.

(c) Financial markets data are the average from 1–31 July 2013.

(d) The household surveys ask about expected changes in prices but do not reference a specific price index, and the measures are based on the median estimated price change.

(e) CBI data for the manufacturing, business/consumer services and distribution sectors, weighted together 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.

(f) Financial market measures are RPI inflation at various horizons implied from swaps.

(g) Bank/NOP and Barclays Basix are two year ahead measures. The professional forecasters and financial market measures are three years ahead.

(h) Bank's survey of external forecasters.

(i) RPI inflation over the next three years implied from swaps.

(j) Bank/NOP and Barclays Basix are five year ahead measures. YouGov/Citigroup and financial market measures are five to ten years ahead.

(k) Five year, five-year forward RPI inflation implied by swaps.

inflation expectations remain close to their pre-2008 averages, consistent with inflation meeting the 2% CPI target. There is tentative evidence, however, that financial market measures of inflation expectations have become more responsive to developments in the economy. The MPC will continue to monitor closely evidence on inflation expectations, and the extent to which they are affecting wage and price-setting behaviour (Section 5).

The Committee judges that medium-term indicators of household and financial market inflation expectations will continue to be consistent with the 2% target (Section 5).

5 Prospects for inflation

A sustained expansion in output is in prospect, although the pace of the upturn is likely to be tempered by the legacy of the financial crisis. A degree of spare capacity is expected to persist for some time.

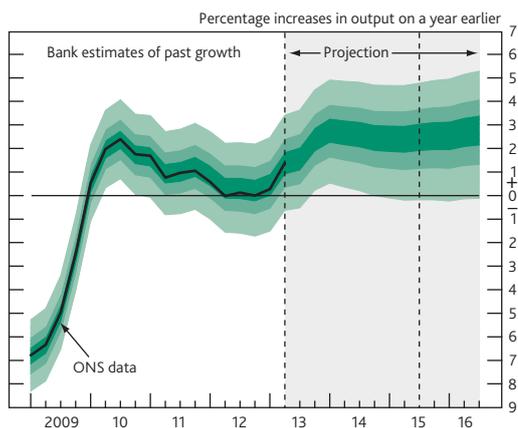
The persistence of economic slack should continue to dampen domestic inflation. Although CPI inflation is set to remain close to 3% in the near term, it is likely to fall back towards the 2% target over the forecast period. Productivity growth should attenuate domestic cost pressures, and external price pressures are assumed to wane. By the end of the forecast period, the risks to CPI inflation are broadly balanced around the 2% target.

A recovery is beginning to take hold, although it is likely to be some time before the anticipated upturn in demand makes meaningful in-roads into the margin of slack that has built up in the UK economy. Considerable challenges remain, reflecting the legacy of the financial crisis. Inflation is likely to remain above the 2% target for much of the next two years, intensifying the challenges facing monetary policy.

The objective of monetary policy is to achieve the 2% inflation target. In the light of the current economic circumstances, however, it is important that this is achieved in a way that does not threaten the incipient recovery. The Committee believes that explicit forward guidance should help it to achieve that aim. In particular, the MPC intends at a minimum to maintain the current highly stimulative stance of policy until the unemployment rate reaches 7% (the 'threshold'), subject to conditions on price stability and financial stability not being breached (the 'knockouts'). More details are provided in the box on page 7 of the Overview, and in the document 'Monetary policy trade-offs and forward guidance'.⁽¹⁾

Short-term market interest rates have risen since May, and, in the Committee's best collective judgement, imply a faster withdrawal of stimulus than appears likely, given current economic circumstances. The projections for four-quarter output growth and CPI inflation shown in **Chart 5.1** and **Chart 5.2** are based on the assumption that Bank Rate remains at 0.5% over the forecast period,⁽²⁾ rather than the usual

Chart 5.1 GDP projection based on constant nominal interest rates at 0.5% and £375 billion asset purchases

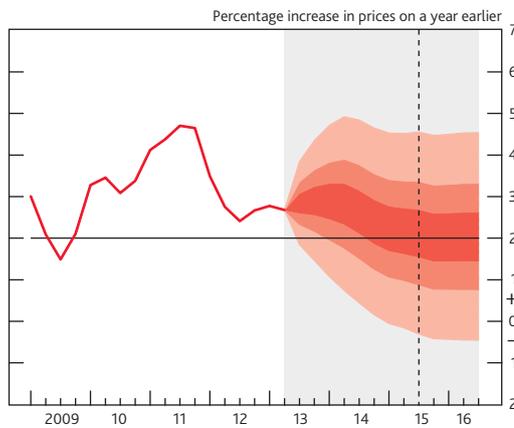


The fan chart depicts the probability of various outcomes for GDP growth. It has been conditioned on the assumption that the stock of purchased assets financed by the issuance of central bank reserves remains at £375 billion throughout the forecast period. To the left of the first vertical dashed line, 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 30 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 30 occasions. In any particular quarter of the forecast period, GDP growth 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 30%. The distribution of that 30% between the bands below and above the central projection varies according to the skew at each quarter, with the distribution given by the ratio of the width of the bands below the central projection to the bands above it. In **Chart 5.1**, the probabilities in the lower bands are slightly larger than those in the upper bands at 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.

(1) Available at www.bankofengland.co.uk/publications/Documents/inflationreport/2013/ir13augforwardguidance.pdf.

(2) When conditioning its projections on the assumption of unchanged Bank Rate, rather than the path implied by market rates, the Committee has assumed that the marginal impact on growth and inflation of the lower assumed path for Bank Rate will come through more quickly than has been the case in constant rate projections in previous *Reports*, reflecting the potential impact of its policy guidance.

Chart 5.2 CPI inflation projection based on constant nominal interest rates at 0.5% and £375 billion asset purchases



Charts 5.2 and 5.3 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 £375 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 30 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 30 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 30%. The distribution of that 30% 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 Charts 5.2 and 5.3, the probabilities in the upper bands are the same as those in the lower bands at Years 1, 2 and 3. See the box on pages 48–49 of the May 2002 *Inflation Report* for a fuller description of the fan chart and what it represents. The dashed lines are drawn at the respective two-year points.

Chart 5.3 CPI inflation projection in May based on market interest rate expectations and £375 billion asset purchases

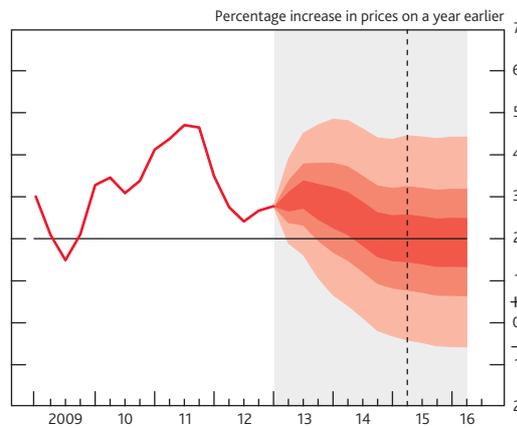
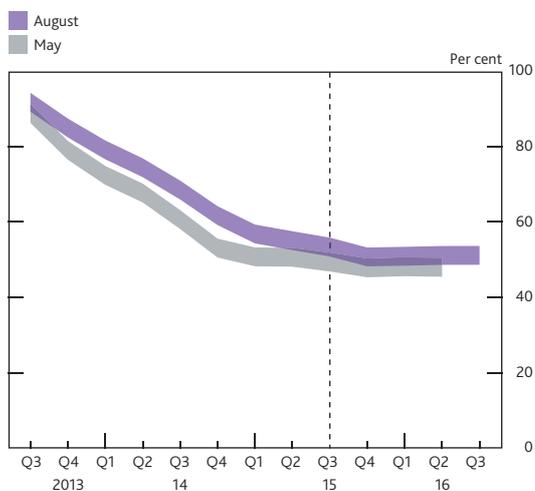


Chart 5.4 Probability that inflation will be above the target



The August and May swathes in this chart are derived from the same distributions as Charts 5.2 and 5.3 respectively. They indicate the assessed probability of inflation being above target in each quarter of the forecast period. The 5 percentage points width of the swathes reflects the fact that there is uncertainty about the precise probability in any given quarter, but they should not be interpreted as confidence intervals. The dashed line is drawn at the two-year point of the August projection. The two-year point of the May projection was one quarter earlier.

market curve assumption,⁽¹⁾ and that the stock of asset purchases is maintained at £375 billion. That does not reflect the Committee's view of the most likely path of Bank Rate. Rather it provides a convenient reference point against which to assess the economic outlook.

The profile for output growth is stronger than in May. That largely reflects the unexpectedly strong tone of recent domestic data, including a marked improvement in business and consumer sentiment. It also reflects the judgement that the policy guidance announced by the Committee should make its existing monetary stimulus more effective, in part by providing greater clarity about the conditions under which the highly stimulative stance of policy will be maintained. The projection for CPI inflation is similar to that in the *May Report* (Chart 5.3), and the risks are broadly balanced around the 2% target by the end of the forecast period (Chart 5.4).

5.1 Key judgements and risks

The Committee's projections for growth and inflation are underpinned by four key judgements. Risks surround all of these, and Table 5.A on page 41 provides a range of indicators to assist with monitoring the risks in the near term. The table also summarises developments since the *May Report*; in general, the key judgements set out three months ago remain broadly intact.

(1) For details of the market curve assumption, see www.bankofengland.co.uk/publications/Documents/inflationreport/market_profiles.xls.

Key Judgement 1: international policy initiatives facilitate a sustained, but gradual, global recovery

As in May, the MPC's central projection assumes that international policy initiatives facilitate a sustained recovery in global activity. The pace of that recovery is likely to remain subdued compared with past upswings, reflecting the legacy of the financial crisis.

Developments in the international environment since May have generally been in line with the judgement made by the Committee three months ago (Table 5.A and Section 2). As expected, output in the euro area appears to have stabilised. In the United States, indicators of activity have been broadly as anticipated. In Japan, indicators have been in line with, or even a little stronger than, expectations at the time of the *May Report*. In contrast, the data flow from China and other emerging economies has, in general, been a little weaker than anticipated.

Prospects for the euro area continue to pose a sizable downside risk to the Committee's projections. Although euro-area activity appears to be stabilising, and the near-term outlook is for that improvement to continue, considerable challenges remain. The need for some member countries to go further in reducing indebtedness and restoring competitiveness means that disorderly adjustment is still a risk. As in previous *Reports*, the Committee's fan charts continue to exclude the most extreme outturns relating to disorderly euro-area adjustment.

Changes in the global environment affect the UK economy through a number of channels. One is through UK trade. The performance of UK exporters has disappointed in the post-crisis period, in large part reflecting unexpected weakness in financial services exports (see the box on pages 24–25 of the *February Report*). In the central view, export growth is expected to pick up in tandem with global activity. But, given the past weakness in trade performance, UK exporters may fail to capitalise on the global recovery to the extent anticipated by the MPC.

A second channel relates to financial markets. Changes in economic prospects abroad can have material effects on domestic activity at home via their impact on asset prices and money markets. For example, since May, short-term market interest rates in the United Kingdom have been influenced by changing expectations of monetary policy in the United States. And, over the past twelve months, declines in UK bank funding costs have reflected developments both overseas and domestically — in particular, the announcement last autumn of the European Central Bank's Outright Monetary Transactions initiative, as well as the impact of the UK Funding for Lending Scheme (FLS).

To a certain extent, domestic policy initiatives can help buttress the UK economy in the face of adverse movements in

Table 5.A Monitoring risks to the Committee's key judgements

The Committee's projections are underpinned by four key judgements. Risks surround all of these, and the MPC will be monitoring a broad range of indicators to understand the degree to which the risks are crystallising in the near term. The table below provides guidance on the likely path for the

indicators if the judgements in the MPC's central view evolve as expected. The table also summarises developments in the indicators that were highlighted in the *May Report*; more detail is provided in Sections 1 to 4.

Key judgement	Developments since May	Likely developments in 2013 H2/early 2014 if judgements evolve as expected
1: international policy initiatives facilitate a sustained, but gradual, global recovery	<p>Broadly as expected in advanced economies.</p> <p>On balance, data a little weaker than expected for China and some emerging economies.</p>	<ul style="list-style-type: none"> Quarterly euro-area GDP growth gently rising in 2013 H2 and early 2014; improvements in household and business confidence. US GDP growth rising to around 0.5% a quarter in 2013 H2. Indicators of economic activity consistent with four-quarter GDP growth of around 7.5% in China, and around 5% in emerging economies more broadly. Indicators of international bank funding costs broadly stable.
2: household and business spending recover as the consequences of the financial crisis slowly fade	<p>Consumer spending growth a little stronger than anticipated.</p> <p>Latest vintage of business investment data a little weaker than expected, although the MPC places less weight than usual on the official investment data (Section 2).</p> <p>Private non-financial corporation (PNFC) net lending growth a little weaker than expected; otherwise, credit conditions and net lending broadly as anticipated.</p>	<ul style="list-style-type: none"> Quarterly consumer spending growth at around 0.5% in 2013 H2 and early 2014. Indicators of business investment consistent with positive, albeit relatively subdued, growth. Further modest declines in the cost of credit to households, as well as to large and small companies. Further increases in credit availability. A rise in mortgage approvals for home purchase to above 60,000 a month by the end of the year. The pace of decline in four-quarter PNFC net lending growth to stabilise in Q3, and begin to ease gradually thereafter.
3: the stronger demand outlook is largely matched by an expansion in effective supply	<p>Broadly in line with expectations, though little new evidence since the last <i>Report</i>.</p>	<ul style="list-style-type: none"> Unemployment edging down, but likely to remain above 7.5% in 2013. Whole-economy employment broadly stable in 2013 Q2, rising thereafter. The labour participation rate broadly stable. A steady rise in four-quarter growth in labour productivity to above 1% or so by the end of 2013. Indicators of spare capacity continuing to point to a small margin of slack within companies.
4: a revival in productivity growth attenuates domestic cost pressures, such that inflation gradually returns to target as external price pressures fade	<p>The pattern of headline pay growth distorted by the reduction in the top rate of tax; underlying pay pressures in line with expectations.</p> <p>The sterling ERI a little weaker than assumed in May; oil prices a little stronger.</p>	<ul style="list-style-type: none"> Medium-term indicators of household and financial market inflation expectations continuing to be consistent with the 2% target (see the box on pages 36–37). Near-term volatility in headline four-quarter average weekly earnings growth related to the reduction in the top rate of tax; on average in 2013 H2 to be around 1%. Four-quarter unit labour cost growth volatile, reflecting movements in headline earnings growth; on average in 2013 H2 to be flat to modestly negative. Sterling ERI and commodity prices to evolve roughly in line with the conditioning assumptions (see the box on page 49). Developments in commodity prices and regulatory initiatives consistent with annual increases in household energy bills of around 5% a year.

global financial markets. The Committee's policy guidance should help to mitigate the risk that the domestic recovery is knocked off course by unwarranted increases in market interest rates. And the FLS should act as a backstop to UK bank funding costs if global stresses re-emerge. There is a clear limit to the extent that a small, open economy like the United Kingdom can be insulated from developments elsewhere, however.

Key Judgement 2: household and business spending recover as the consequences of the financial crisis slowly fade

The UK economy is growing again. Recent momentum in the household sector has been a little stronger than anticipated in the *May Report*, with consumer spending growth picking up. By contrast, business investment has so far remained subdued. That is likely to reflect the residual impact of the uncertainty associated with last year's euro-area strains, as well as broader uncertainty about the outlook for UK demand.

In the Committee's central view, the outlook for domestic spending continues to brighten as the consequences of the financial crisis slowly fade. The Bank's policy initiatives — including the highly stimulative stance of monetary policy, the Committee's policy guidance and the FLS — help to reinforce the incipient upturn in growth. The banking sector is assumed to heal gradually, supported by the actions that the Financial Policy Committee has taken to increase the resilience of UK banks and building societies. Nevertheless, the pace of the recovery is still anticipated to be fairly subdued by historical standards. That reflects the long-lasting legacy of the financial crisis, and the associated adjustment and balance sheet repair in the private and public sectors.

One downside risk is that the headwinds to growth do not subside to the extent implied by the central view. For instance, in the household sector, concerns about the adequacy of future income — or the ease of future access to credit — may mean that the saving ratio rises, rather than gradually declining. The residual fragility of the banking sector may prove to be a greater drag on growth than implied by the central view. There is also uncertainty about the impact of the fiscal consolidation.

But there are also upside risks to domestic spending. One source of upside risk relates to housing market activity, which has seen a modest revival recently. If the upswing in housing activity proves to be more pronounced than anticipated, this is likely to be associated with stronger consumer spending; it could also help to alleviate credit constraints for small businesses, where property is commonly used as collateral for bank credit. More generally, a sustained recovery in output could be associated with a more rapid diminution of uncertainty, and greater optimism about income prospects, than assumed.

Key Judgement 3: the stronger demand outlook is largely matched by an expansion in effective supply

The financial crisis has led to an impairment of effective supply. Productivity has been weak, falling markedly since the crisis as employment growth materially outstripped that of output. And business surveys have pointed to a relatively limited margin of spare capacity despite the sharp output decline.

An important judgement underpinning the Committee's projections is the likely response of labour productivity — and of effective supply more broadly — as demand recovers. In the Committee's central view, the stronger demand outlook is largely matched by an expansion of effective supply. But there is considerable uncertainty surrounding that judgement, and hence about the outlook for supply.

One aspect of that uncertainty relates to the causes of the apparent supply impairment. Some of the weakness in supply is likely to have reflected the weakness of demand itself. For example, labour productivity will have been adversely affected by companies holding onto staff with relatively scarce skills, or needing a minimum staffing level to remain in business. That aspect of productivity should recover relatively rapidly as the recovery gathers pace. It is possible that the weakness of demand itself may have played a greater role in constraining supply than assumed in the central view. That would imply scope for a more substantial expansion in effective supply as the recovery in demand gains traction.

It is unlikely that the weakness of demand itself can wholly account for the weakness in supply, however. Other influences, such as the adverse impact of elevated uncertainty and impediments to the reallocation of resources across the economy, will also have been at play. As the recovery takes hold, these influences should wane. However, there is considerable uncertainty about the magnitude of these effects, the speed with which they will diminish, and the likely lags between their diminution and the associated supply recovery. For example, as the banking sector heals, it should become easier to obtain finance for capital spending or for new start-ups. But it will take time for this to filter through to meaningful improvements in productivity and it is not possible to say how large those improvements will be.

Prospects for the jobs market are closely linked to the outlook for labour productivity in the near term. In the Committee's central view, the anticipated revival in productivity means that the projected rise in employment is weaker than that in output for much of the forecast period. The unemployment rate is expected to fall back relatively gradually, and a degree of labour market slack is assumed to persist (see the box on pages 28–29 for a discussion of how to evaluate effective labour market slack). The persistence of labour market slack also reflects a judgement that the labour force participation

rate will not fall back (see the box on page 27 of the *May Report*).

The high degree of uncertainty about the outlook for productivity also means that there is considerable uncertainty about prospects for the job market. On the one hand, if the recovery in demand is accompanied by a more rapid expansion of productivity than assumed in the central view, then unemployment could remain elevated for an extended period. In the nearer term, this would be associated with a larger degree of economic slack; in the medium term, however, persistently high unemployment would risk damaging the economy's supply capacity. On the other hand, the demand recovery may be accompanied by only a small rise in productivity. In this case, spare capacity would be eroded relatively quickly and unemployment could fall more rapidly than projected.

Key Judgement 4: a revival in productivity growth attenuates domestic cost pressures, such that inflation gradually returns to target as external pressures fade

The Committee's central view is that the anticipated revival in productivity growth succeeds in attenuating domestic cost pressures. Growth in unit labour costs — the most relevant measure of labour costs for business pricing — is fairly muted throughout the forecast period. External price pressures are assumed to fade as the impact of past rises in import prices wanes, and oil prices edge lower. This allows CPI inflation to fall back gradually towards the 2% target, despite the strength of domestic spending and persistent upward pressure from administered and regulated prices. Indicators since May have been consistent with the judgement of subdued domestic cost pressures (**Table 5.A** and Section 4). For example, although the recent reduction in the top rate of income tax has led to volatility in headline measures of wage growth, underlying pay pressures have remained weak.

One risk to the outlook for domestic cost pressures relates to labour productivity and effective supply (Key Judgement 3): if productivity growth rises by more than expected, this would pose downside risks to near-term domestic cost pressures, and *vice versa*. But even if labour productivity, and effective supply more generally, evolve as expected, there remains uncertainty about the degree to which that productivity revival will attenuate domestic cost growth.

Part of that uncertainty relates to wages. In the central projection, wage growth remains subdued as productivity rises, helping to contain growth in unit labour costs. But companies may be more inclined to grant higher pay awards than assumed in the central view, perhaps reflecting concerns that continued pay restraint risks undermining employees' morale or efficiency. And this risk is more likely to crystallise if employers expect inflation to return to the target more slowly than had previously been the case.

Chart 5.5 Projected cumulative probabilities of four-quarter GDP growth in 2015 Q3^(a)

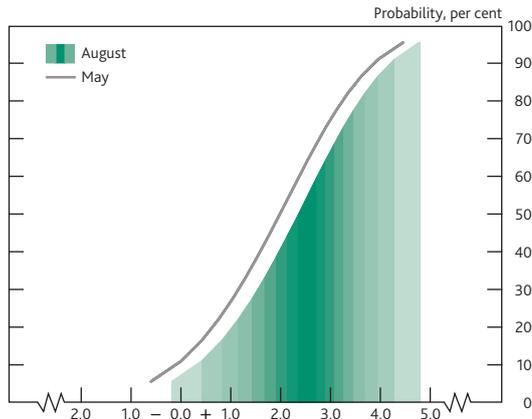


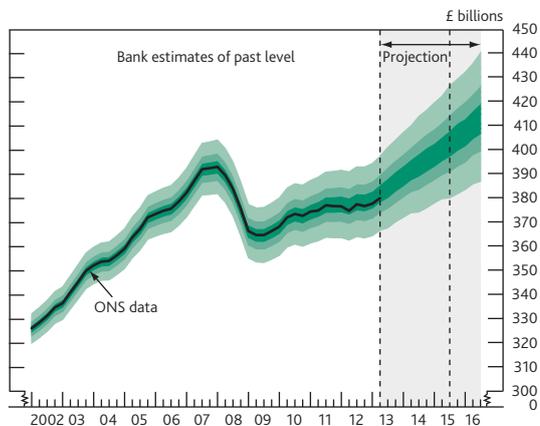
Table 5.B Percentiles of projected four-quarter GDP growth distribution in August and May^(a)

Probability ^(b)	10%	25%	50%	75%	90%
2014 Q3	0.7 (0.0)	1.6 (0.9)	2.5 (1.8)	3.5 (2.8)	4.3 (3.6)
2015 Q3	0.3 (-0.1)	1.3 (0.9)	2.4 (2.0)	3.3 (3.0)	4.2 (3.9)
2016 Q3	0.4	1.5	2.6	3.7	4.7

(a) Chart 5.5 and Table 5.B show the probability of four-quarter GDP growth being at or below different growth rates. They are based on cross-sections of the GDP growth fan charts in the August 2013 and May 2013 *Inflation Reports*, which are conditioned on constant interest rates (August) and market interest rates (May), as well as the assumption that the stock of purchased assets financed by the issuance of central bank reserves remains at £375 billion throughout the forecast period. The bands in Chart 5.5 have been coloured to match the equivalent bands in the narrow-band fan charts that are provided on the Bank's website. This information can be used to infer the probability of growth lying in any given interval. For example, in the August projection there is a 25% probability that growth lies between 2.4% and 3.3% in 2015 Q3. In order to construct the chart, the probability mass allocated to each of the upper and lower tails is assumed to be in line with the skew assumed for the central 90% of the distribution.

(b) In Table 5.B, the numbers in parentheses show the corresponding percentiles in the May 2013 *Inflation Report*.

Chart 5.6 Projection of the level of GDP based on constant nominal interest rates at 0.5% and £375 billion asset purchases



Chained-volume measure (reference year 2010). See the footnote to Chart 5.1 for details of the assumptions underlying the projection for GDP growth. The width of this fan over the past has been calibrated to be consistent with the four-quarter growth fan chart, under the assumption that revisions to quarterly growth are independent of the revisions to previous quarters. Over the forecast, the mean and modal paths for the level of GDP are consistent with Chart 5.1. So the skews for the level fan chart have been constructed from the skews in the four-quarter growth fan chart at the one, two and three-year horizons. This calibration also takes account of the likely path dependency of the economy, where, for example, it is judged that shocks to GDP growth in one quarter will continue to have some effect on GDP growth in successive quarters. This assumption of path dependency serves to widen the fan chart.

There is also uncertainty about prospects for company profit margins. Margins have been under pressure since the financial crisis. It is likely that these will need to recover in the medium term, at least to a certain degree, to provide investors with an adequate return. The central projection is consistent with a gradual restoration of margins. However, the continued low interest rate environment may mean that investors should expect a lower return than would have historically been the case. There is also uncertainty about the extent to which the anticipated margin recovery occurs through higher prices, rather than through weak cost growth. For example, competitive pressures may limit the scope for price rises to a greater extent than assumed in the central view. Set against that is the risk that companies become more inclined to raise prices if they revise their view about the likely speed at which the MPC is seeking to return inflation to the 2% target.

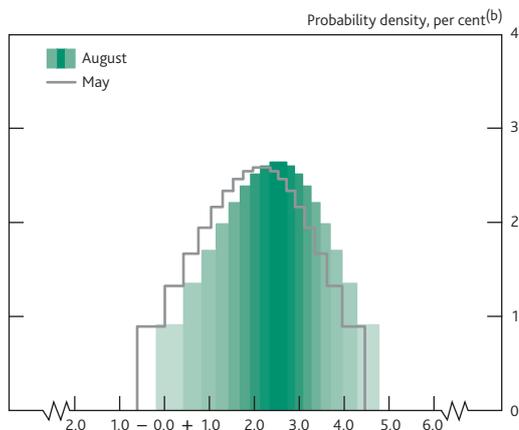
The prospects for inflation also reflect the outlook for administered and regulated prices, the external cost pressures related to commodity prices, and the sterling ERI. In line with its usual convention, the MPC's forecasts are conditioned on assumptions about domestic energy bills, commodity prices and the sterling ERI (see the box on page 49). Domestic energy bills are assumed to rise by around 5% a year, as in the *May Report*; oil prices are assumed to fall back gradually; non-oil commodity prices and the sterling ERI are assumed to remain broadly stable.

5.2 The projections for demand and inflation

GDP projections

Conditioned on the assumptions that Bank Rate remains at 0.5%, and that the stock of asset purchases remains at £375 billion, the MPC anticipates a sustained expansion in both demand and effective supply. That expansion is supported by: the highly stimulative stance of monetary policy; a further easing in credit conditions aided by the extended FLS; a moderate but persistent expansion in global

Chart 5.7 Projected probabilities of GDP growth in 2015 Q3 (central 90% of the distribution)^(a)



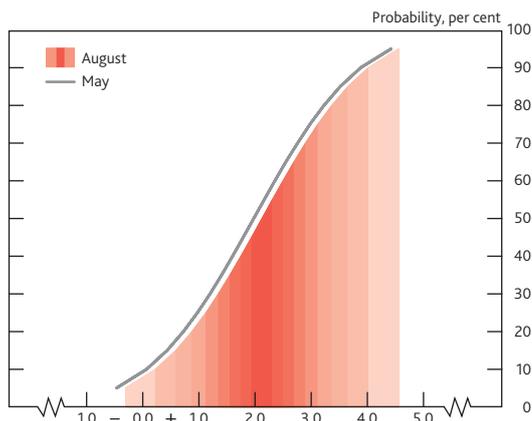
- (a) Chart 5.7 represents the cross-section of the GDP growth fan chart in 2015 Q3 for the constant interest rate projection. It has been conditioned on the assumption that the stock of purchased assets financed by the issuance of central bank reserves remains at £375 billion throughout the forecast period. The coloured bands in Chart 5.7 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 2015 Q3 would lie somewhere within the range covered by the histogram on 90 occasions. GDP growth would lie outside the range covered by the histogram on 10 out of 100 occasions. The grey outline represents the corresponding cross-section of the May 2013 *Inflation Report* fan chart, which was conditioned on market interest rates and 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 ± 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.

Table 5.C Calendar-year GDP growth rates of the modal, median and mean paths

	Mode	Median	Mean
2013	1.5 (1.2)	1.4 (1.2)	1.4 (1.2)
2014	2.7 (1.9)	2.6 (1.8)	2.5 (1.7)
2015	2.5 (2.2)	2.3 (2.0)	2.3 (1.9)

The table shows projections for calendar-year growth of real GDP consistent with the respective modal, median and mean projections for four-quarter growth of real GDP. The numbers in parentheses show the corresponding projections in the May 2013 *Inflation Report*. The August projections have been conditioned on constant interest rates, and the assumption that the stock of purchased assets financed by the issuance of central bank reserves remains at £375 billion throughout the forecast period; the May 2013 projections were conditioned on market interest rates and the same assumption about asset purchases. Where growth rates depend in part on the MPC's backcast, revisions to quarterly growth are assumed to be independent of the revisions to previous quarters.

Chart 5.8 Projected cumulative probabilities of four-quarter CPI inflation in 2015 Q3^(a)



demand; and, a gradual fading of the impact of the financial crisis on household and business spending.

Nevertheless, the legacy of the financial crisis means that the recovery is likely to remain weak by historical standards. The Committee's projections imply that there is a 50% chance that four-quarter output growth will be at or below 2.4% in two years' time, a little lower than its historical average growth rate (Chart 5.5 and Table 5.B). And GDP is more likely than not to remain below its pre-crisis level for another year (Chart 5.6).

The projection for growth is higher than in the *May Report*. That stronger outlook largely reflects the unexpectedly strong tone of recent incoming data and business sentiment. It also reflects the assumption that the Committee's forward guidance should make its existing monetary stimulus more effective, in part by providing greater clarity as to the conditions under which the currently highly stimulative stance of policy will be maintained. Chart 5.7 compares the August *Report* projection for 2015 Q3 (conditioned on constant Bank Rate) with the *May Report* projection for 2015 Q3 (conditioned on the assumption that Bank Rate moved in line with market yields at that time); Table 5.C provides the associated calendar-year growth rates.

There is a range of views on the Committee about the outlook for output growth. In the MPC's best collective judgement, however, the balance of risks remains weighted to the downside, in part reflecting the challenges that continue to face the euro area.

CPI inflation projections

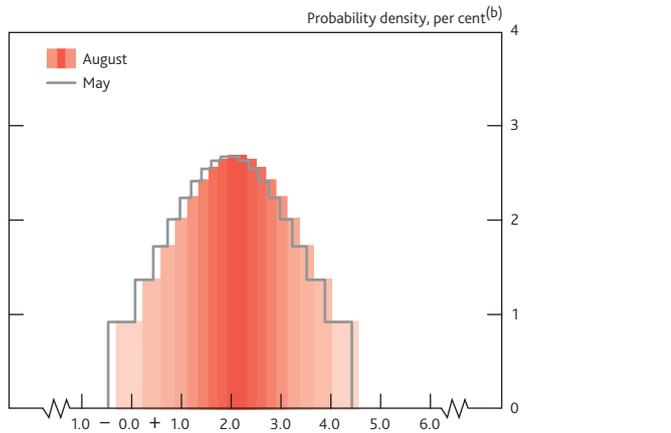
CPI inflation is likely to remain close to 3% in the near term, reflecting the impact of past increases in import prices and the persistent contribution of administered and regulated prices. Over time, external price pressures are expected to fade. And, with a revival in productivity growth assumed to attenuate domestic cost pressures, inflation is projected to fall back to

Table 5.D Percentiles of projected CPI inflation distribution in August and May^(a)

Probability ^(b)	10%	25%	50%	75%	90%
2014 Q3	0.9 (0.6)	1.7 (1.4)	2.6 (2.4)	3.5 (3.3)	4.4 (4.1)
2015 Q3	0.2 (0.1)	1.1 (1.0)	2.1 (2.0)	3.1 (3.0)	4.0 (3.9)
2016 Q3	0.1	1.0	2.0	3.1	4.0

- (a) Chart 5.8 and Table 5.D show the probability of CPI inflation being at or below different inflation rates. They are based on cross-sections of the inflation fan charts in the August 2013 and May 2013 *Inflation Reports*, which are conditioned on constant interest rates (August) and market interest rates (May), as well as the assumption that the stock of purchased assets financed by the issuance of central bank reserves remains at £375 billion throughout the forecast period. The bands in Chart 5.8 have been coloured to match the equivalent bands in the narrow-band fan charts that are provided on the Bank's website. This information can be used to infer the probability of inflation lying in any given interval. For example, in the August projection there is a 25% probability that inflation lies between 2.1% and 3.1% in 2015 Q3. In order to construct the chart, the probability mass allocated to each of the upper and lower tails is assumed to be in line with the skew assumed for the central 90% of the distribution.
- (b) In Table 5.D, the numbers in parentheses show the corresponding percentiles in the May 2013 *Inflation Report*.

Chart 5.9 Projected probabilities of CPI inflation outturns in 2015 Q3 (central 90% of the distribution)^(a)



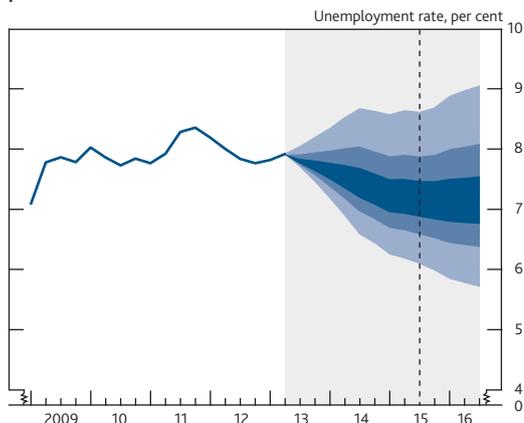
- (a) Chart 5.9 represents the cross-section of the CPI inflation fan chart in 2015 Q3 for the constant interest rate projection. It has been conditioned on the assumption that the stock of purchased assets financed by the issuance of central bank reserves remains at £375 billion throughout the forecast period. The coloured bands in Chart 5.9 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 2015 Q3 would lie somewhere within the range covered by the histogram on 90 occasions. The grey outline represents the corresponding cross-section of the May 2013 *Inflation Report* fan chart, which was conditioned on market interest rates and the assumption that the stock of purchased assets financed by the issuance of central bank reserves remains at £375 billion throughout the forecast period.
- (b) Average probability within each band; the figures on the y-axis indicate the probability of inflation being within ± 0.05 percentage points of any given inflation rate, specified to one decimal place. As the heights of identically coloured bars on either side of the central projection are the same, the ratio of the probability contained in the bars above the central projection, to the probability in the bars below it, is given by the ratio of the width of those bars.

Table 5.E Q4 CPI inflation

	Mode	Median	Mean
2013 Q4	2.9 (2.9)	2.9 (2.9)	2.9 (2.9)
2014 Q4	2.4 (2.1)	2.4 (2.1)	2.4 (2.1)
2015 Q4	2.0 (1.9)	2.0 (1.9)	2.0 (1.9)

The table shows projections for Q4 four-quarter CPI inflation. The numbers in parentheses show the corresponding projections in the May 2013 *Inflation Report*. The August projections have been conditioned on constant interest rates, and the assumption that the stock of purchased assets financed by the issuance of central bank reserves remains at £375 billion throughout the forecast period; the May 2013 projections were conditioned on market interest rates and the same assumption about asset purchases.

Chart 5.10 Unemployment projection based on constant nominal interest rates at 0.5% and £375 billion asset purchases



The fan chart depicts the probability of various outcomes for LFS unemployment. It has been conditioned on the assumption that the stock of purchased assets financed by the issuance of central bank reserves remains at £375 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 the mature estimate of unemployment would lie within the darkest central band on only 30 of those occasions. The fan chart is constructed so that outturns are also expected to lie within each pair of the lighter blue areas on 30 occasions. In any particular quarter of the forecast period, unemployment is therefore expected to lie somewhere within the fan on 90 out of 100 occasions. And on the remaining 10 out of 100 occasions unemployment can fall anywhere outside the blue 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 30%. The calibration of this fan chart takes account of the likely path dependency of the economy, where, for example, it is judged that shocks to unemployment in one quarter will continue to have some effect on unemployment in successive quarters. Q2 is a staff projection for the unemployment rate, based in part on data for April and May. The unemployment rate was 7.8% in the three months to May and is projected to be 7.9% in Q2.

around the 2% target by the latter part of the forecast period. Chart 5.8 and Table 5.D show that, by 2015 Q3, there is a 50% chance that CPI inflation will be at or below 2.1%.

The outlook for inflation is similar to May, since the stronger demand outlook is assumed to be largely matched by an expansion in effective supply capacity (Chart 5.9 and Table 5.E). There is a range of views on the Committee about the outlook for inflation, in large part reflecting differing views about the likely response of effective supply. The path of inflation will also depend upon the extent to which companies' profit margins are restored, and whether that is through higher prices rather than lower cost growth. And, as ever, inflation will also be sensitive to movements in both the exchange rate and commodity prices. Overall, in the Committee's best collective judgement, the risks to CPI inflation are balanced around the target in the latter part of the forecast period.

Thresholds and knockouts

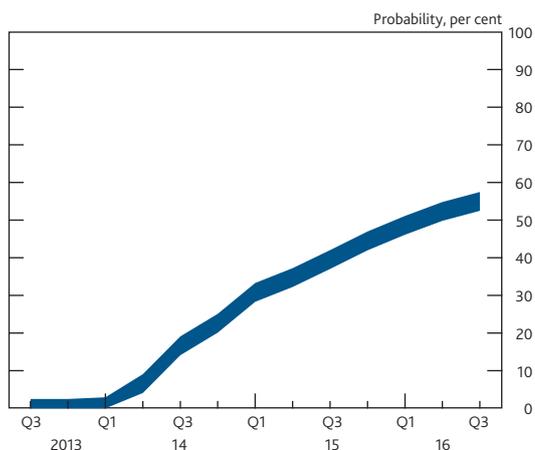
In the light of the present exceptional economic circumstances, with both inflation and GDP far from desirable levels, the MPC believes it appropriate to provide explicit guidance about the future stance of policy (see the box on page 7). In particular, it intends at a minimum to maintain the present highly stimulative stance of monetary policy until unemployment reaches a 7% threshold, provided that this does not entail material risks to price stability or financial stability. At its policy meetings and in its *Inflation Reports*, the Monetary Policy Committee will monitor closely the unemployment threshold, and assess whether either of its price stability knockouts, or its financial stability knockout, has been breached.

In the Committee's best collective view, unemployment is likely to fall back gradually (Chart 5.10). There is considerable uncertainty surrounding the most likely path for unemployment, however, as it depends not only on the outlook for demand, but also on the prospects for labour market participation and productivity. The greater the revival in productivity, the less likely it is that unemployment will reach the 7% threshold during the forecast period, and *vice versa*. Overall, in the MPC's best collective view, the unemployment rate is as likely to reach the 7% threshold before the forecast horizon as after it (Chart 5.11).

Price stability remains the MPC's primary objective. The unemployment threshold will therefore cease to hold if either of the following price stability knockouts is breached:

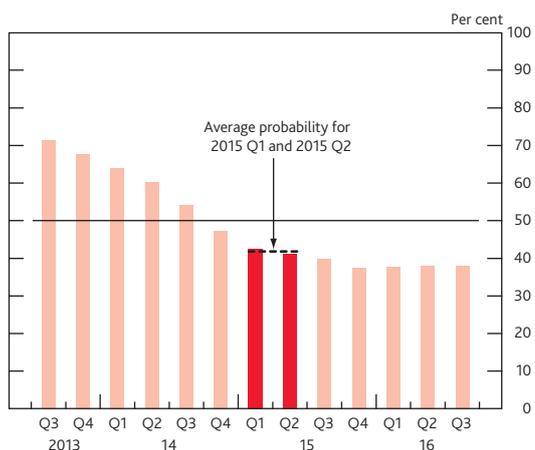
- in the Committee's view, it is more likely than not that CPI inflation 18 to 24 months ahead will be 0.5 percentage points or more above the 2% target; or
- medium-term inflation expectations no longer remain sufficiently well anchored.

Chart 5.11 Cumulative probability of unemployment having fallen below the 7% threshold



The swathe in this chart is derived from the same distribution as Chart 5.10. The swathe shows the probability that unemployment has fallen below 7% by each quarter of the forecast period. The 5 percentage points width of the swathe reflects the fact that there is uncertainty about the precise probability in any given quarter, but it should not be interpreted as a confidence interval.

Chart 5.12 Probability that CPI inflation will be at or above the 2.5% knockout



The bars in this chart are derived from the same distribution as Chart 5.2. The bars indicate the assessed probability of inflation being at or above 2.5% in each quarter of the forecast period. The dashed line shows the average of the probabilities in 2015 Q1 and 2015 Q2, consistent with the 18 to 24-month period in the MPC's price stability knockout.

To assess the likelihood of a breach of the first price stability knockout, Committee members will take the average of the probabilities of inflation being at or above 2.5% in the corresponding quarters of the Committee's inflation projections. In the projections shown in this *Report*, those quarters are 2015 Q1 and 2015 Q2. The average probability of inflation being at or above 2.5% is depicted by the dashed line in Chart 5.12, and in the current projection is less than 50%.

The Committee uses a wide range of indicators to monitor medium-term inflation expectations (see, for example, the 2013 Q2 edition of the Bank's *Quarterly Bulletin*).⁽¹⁾ As the box on pages 36–37 of this *Report* sets out, medium-term indicators of inflation expectations are currently judged to remain consistent with the 2% target.

5.3 The policy decision

A recovery appears to be under way, although its strength and sustainability remain unclear. Inflation remains well above the target, but seems likely to fall back to around the 2% target in the latter half of the forecast period. The exceptional weakness in productivity means that there is considerable uncertainty about the supply capacity of the economy as demand recovers. As a result, the trade-off between the horizon over which inflation returns to the target and the speed with which output and employment recover is unusually uncertain. Misjudging that trade-off could have significant costs in the medium term.

In these unprecedented circumstances, explicit policy guidance can enhance the effectiveness of monetary stimulus in three ways. It provides greater clarity regarding the MPC's view of the appropriate trade-off between the speed with which inflation is returned to the target and the support given to the recovery. It reduces uncertainty about the future path of monetary policy as the economy recovers. And it delivers a robust framework within which the MPC can explore the scope for economic expansion without putting price stability and financial stability at risk.

At its August meeting, in the light of both the economic outlook and these considerations, the MPC voted to maintain Bank Rate at 0.5% and the stock of asset purchases at £375 billion.

(1) Maule, B and Pugh, A (2013), 'Do inflation expectations currently pose a risk to the economy?', *Bank of England Quarterly Bulletin*, Vol. 53, No. 2, pages 110–21.

Forecast conditioning assumptions

The projections for CPI inflation and GDP growth described in **Charts 5.2** and **5.1** assume that Bank Rate remains at 0.5% throughout the forecast period.

The August projections are conditioned on an assumption that the total stock of asset purchases financed by the creation of central bank reserves remains at £375 billion throughout the forecast period, the same total scale of purchases assumed in the May projections.

The starting point for sterling's effective exchange rate index (ERI) in the MPC's projections was 80.1, the average for the fifteen working days to 31 July. That was 0.6% below the starting point for the May projections. Under the MPC's usual convention,⁽¹⁾ the exchange rate is broadly stable, and is a little lower throughout the forecast period than was assumed in May.

The starting point for UK equity prices in the MPC's projections was 3491 — the average of the FTSE All-Share for the fifteen working days to 31 July. That was 3.2% above the starting point for the May projection.

Energy prices are assumed to evolve broadly in line with the paths implied by futures markets over the forecast period. Average Brent oil futures prices for the next three years were around 3% higher (in US dollar terms) than at the time of the

May *Report*, while wholesale gas futures prices were broadly unchanged over the forecast period. Major energy suppliers, however, anticipate that their non-energy costs — which were cited by most as a reason for the Autumn 2012 price rises — will continue to increase in coming years and the central projection is therefore conditioned on a benchmark assumption of increases in domestic gas and electricity prices averaging around 5% each year.

In line with the usual convention, the Committee's projections are conditioned on the Government's tax and spending plans. For this forecast, this means the plans set out in the 2013 March *Budget*, supplemented by the Office for Budget Responsibility's associated *Economic and Fiscal Outlook*. They also take account of the transfers of gilt coupons received by the Asset Purchase Facility, net of interest costs and other expenses, to the Exchequer. The subsequent use of these cash flows to pay down government debt will have an effect similar to the MPC purchasing gilts of the same value.

The Committee's projections are also conditioned on the recommendations of the Financial Policy Committee (FPC) (as set out in the 18 June 2013 FPC Record); and on the current regulatory plans of the Prudential Regulation Authority, including the transition to the Basel III regulatory standard.

(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.

Other forecasters' expectations

Every three months, the Bank asks a sample of external forecasters for their latest economic projections. This box reports the results of the most recent survey, carried out during July. On average, respondents expected annual CPI inflation to fall back over the next three years from its current elevated rate to 2.1% (Table 1). That was similar to the average expectation three months ago. Four-quarter GDP growth was, on average, projected to recover gradually, but to remain below its historical average rate of 2.75% over the next three years (Table 1). The projected rate of recovery was very slightly stronger than three months ago.

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

	2014 Q3	2015 Q3	2016 Q3
CPI inflation ^(b)	2.5	2.2	2.1
GDP growth ^(c)	1.7	2.1	2.2
Bank Rate (per cent)	0.6	0.8	1.4
Stock of purchased assets (£ billions) ^(d)	393	400	387
Sterling ERI	80.9	82.3	82.9

Source: Projections of outside forecasters as of 29 July 2013.

(a) For 2014 Q3, there were 26 forecasts for CPI inflation, GDP growth and Bank Rate, 23 for the stock of purchased assets and 18 for the sterling ERI. For 2015 Q3 and 2016 Q3, there were 22 forecasts for CPI inflation and GDP growth, 23 for Bank Rate, 20 for the stock of purchased assets and 16 for the sterling ERI.

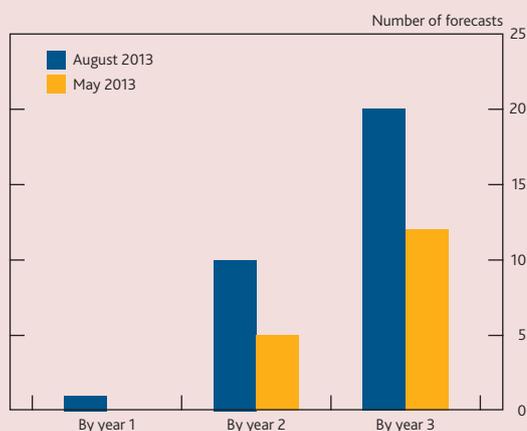
(b) Twelve-month rate.

(c) Four-quarter percentage change.

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

On average, the first rise in Bank Rate was expected to have occurred by 2015 Q3, although only two fifths of respondents had that as their central projection. Most respondents expected Bank Rate to have risen above 0.5% by 2016 Q3. Expectations for the first rise in Bank Rate were on average somewhat earlier than three months ago (Chart A). Expectations for the stock of purchased assets were also a little lower than three months ago. On average, respondents continued to expect a small extension in the MPC's asset

Chart A Number of forecasters expecting Bank Rate to be above 0.5%



Sources: Projections as of 29 April 2013 of 21 outside forecasters for 2014 Q2, and 18 for 2015 Q2 and 2016 Q2; and projections as of 29 July 2013 of 26 outside forecasters for 2014 Q3, and 23 for 2015 Q3 and 2016 Q3.

purchase programme, but that reflected a range of different views: a third of respondents expected an extension and a third expected asset sales over the next three years.

The Bank also asks forecasters for their assessment of the risks around their central projections for CPI inflation and GDP growth (Table 2). The average probability assigned to inflation being above the target fell back a little at all horizons, relative to the previous survey. The probability of inflation exceeding 2.5% one and two years ahead, also fell back a little on the quarter, although those probabilities remain elevated (Chart B).

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

CPI inflation	Range:						
	<0%	0–1%	1–1.5%	1.5–2%	2–2.5%	2.5–3%	>3%
Probability, per cent							
2014 Q3	2	4	9	17	24	27	17
2015 Q3	2	6	12	21	25	23	11
2016 Q3	2	7	12	22	25	19	11

GDP growth	Range:					
	<-1%	-1–0%	0–1%	1–2%	2–3%	>3%
Probability, per cent						
2014 Q3	2	7	20	39	23	8
2015 Q3	3	8	15	31	28	14
2016 Q3	3	7	14	24	33	17

Source: Projections of outside forecasters as of 29 July 2013.

(a) For 2014 Q3, 25 forecasters provided the Bank with their assessment of the likelihood of twelve-month CPI inflation and four-quarter GDP growth falling in the ranges shown above. For 2015 Q3 and 2016 Q3, 21 provided assessments. The table shows the average probabilities across respondents. Rows may not sum to 100 due to rounding.

Chart B Probabilities of inflation being above 2.5% one and two years ahead



Sources: Projections of outside forecasters provided for Inflation Reports between February 2008 and August 2013.

On average, respondents' views of the balance of risks to GDP growth over the next three years were little changed from three months ago, although the average probability attached to GDP growth being less than 1% was a little lower in all three years.

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Text of Bank of England press notice of 6 June 2013

Bank of England maintains Bank Rate at 0.5% and the size of the Asset Purchase Programme at £375 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 £375 billion.

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

Text of Bank of England press notice of 4 July 2013

Bank of England maintains Bank Rate at 0.5% and the size of the Asset Purchase Programme at £375 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 £375 billion.

Since the May *Inflation Report*, market interest rates have risen sharply internationally and asset prices have been volatile. In the United Kingdom, there have been further signs that a recovery is in train, although it remains weak by historical standards and a degree of slack is expected to persist for some time. Twelve-month CPI inflation rose to 2.7% in May and is set to rise further in the near term. Further out, inflation should fall back towards the 2% target as external price pressures fade and a revival in productivity growth curbs domestic cost pressures.

At its meeting today, the Committee noted that the incoming data over the past couple of months had been broadly consistent with the central outlook for output growth and inflation contained in the May *Report*. The significant upward movement in market interest rates would, however, weigh on that outlook; in the Committee's view, the implied rise in the expected future path of Bank Rate was not warranted by the recent developments in the domestic economy.

The latest remit letter to the MPC from the Chancellor had requested that the Committee provide an assessment, alongside its August *Inflation Report*, of the case for adopting some form of forward guidance, including the possible use of intermediate thresholds. This analysis would have an important bearing on the Committee's policy discussions in August.

In the light of these considerations, the Committee voted to maintain the size of its programme of asset purchases financed by the issuance of central bank reserves at £375 billion. The Committee also voted to maintain Bank Rate at 0.5%.

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

Text of Bank of England press notice of 1 August 2013

Bank of England maintains Bank Rate at 0.5% and the size of the Asset Purchase Programme at £375 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 £375 billion.

The Committee's latest inflation and output projections will appear in the *Inflation Report* to be published at 10.30 am on Wednesday 7 August. As previously announced, the Committee will also respond to the Chancellor's request for its assessment of the use of thresholds and forward guidance at that time.

The minutes of the meeting will be published at 9.30 am on Wednesday 14 August.

Glossary and other information

Glossary of selected data and instruments

AWE – average weekly earnings.

CDS – credit default swap.

CPI – consumer prices index.

CPI inflation – inflation measured by the consumer prices index.

CPIH – an index of consumer prices that includes a measure of owner-occupiers' housing costs.

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.

RPI – retail prices index.

RPI inflation – inflation measured by the retail prices index.

Abbreviations

BCC – British Chambers of Commerce.

CBI – Confederation of British Industry.

CEIC – CEIC Data Company Ltd.

CFO – chief financial officer.

CIPS – Chartered Institute of Purchasing and Supply.

FLS – Funding for Lending Scheme.

FPC – Financial Policy Committee.

FSB – Federation of Small Businesses.

FTSE – Financial Times Stock Exchange.

GfK – Gesellschaft für Konsumforschung, Great Britain Ltd.

HMRC – Her Majesty's Revenue and Customs.

IFS – Institute for Fiscal Studies.

LCR – Liquidity Coverage Ratio.

LTV – loan to value.

MFIs – monetary financial institutions.

MPC – Monetary Policy Committee.

MTIC – missing trader intra-community.

OBR – Office for Budget Responsibility.

OECD – Organisation for Economic Co-operation and Development.

OFCs – other financial corporations.

ONS – Office for National Statistics.

OPEC – Organization of the Petroleum Exporting Countries.

PNFCs – private non-financial corporations.

PRA – Prudential Regulation Authority.

PwC – PricewaterhouseCoopers.

REC – Recruitment and Employment Confederation.

RICS – Royal Institution of Chartered Surveyors.

S&P – Standard & Poor's.

SMEs – small and medium-sized enterprises.

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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