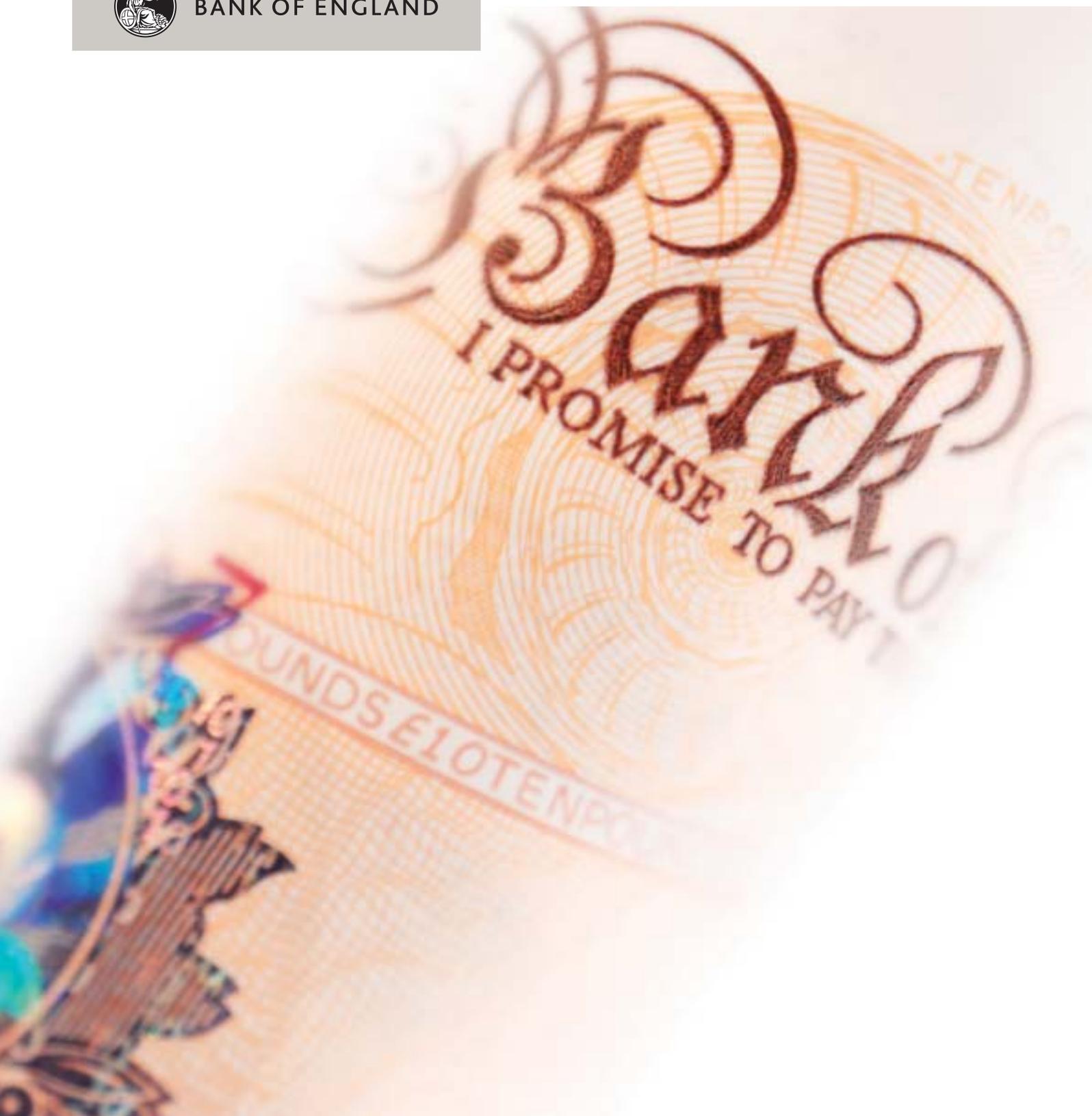


# Inflation Report

May 2013



BANK OF ENGLAND







BANK OF ENGLAND

# Inflation Report

May 2013

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:**

Mervyn King, Governor

Charles Bean, Deputy Governor responsible for monetary policy

Paul Tucker, Deputy Governor responsible for financial stability

Ben Broadbent

Spencer Dale

Paul Fisher

Ian McCafferty

David Miles

Martin Weale

The Overview of this *Inflation Report* is available in PDF at [www.bankofengland.co.uk/publications/Documents/inflationreport/2013/ir13mayo.pdf](http://www.bankofengland.co.uk/publications/Documents/inflationreport/2013/ir13mayo.pdf).

The entire *Report* is available in PDF at [www.bankofengland.co.uk/publications/Pages/inflationreport/2013/ir1302.aspx](http://www.bankofengland.co.uk/publications/Pages/inflationreport/2013/ir1302.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/ir1302.aspx](http://www.bankofengland.co.uk/publications/Pages/inflationreport/2013/ir1302.aspx).



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# Overview

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In the United Kingdom, the economic recovery remains weak and uneven. Domestic demand increased moderately during 2012, but this was largely offset by a pronounced fall in exports. Employment continued to grow strongly. The weakness of productivity suggests that the financial crisis may still be weighing on the current effective supply capacity of the economy as well as on demand.

The MPC judges that the growth of both demand and effective supply are likely to pick up gradually over the next year or so, supported by past asset purchases, an easing in credit conditions aided by the Funding for Lending Scheme, and a continuing improvement in the global environment. 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 remains above the 2% target and is set to edge higher over coming months. Inflation is likely to stay above the target for much of the next two years, bolstered by external price pressures and administered and regulated prices. But inflation is expected to fall back to around 2% in the latter part of the forecast period, as external price pressures fade and a gradual revival in productivity growth curbs increases in domestic costs.

## Financial and credit markets

Since the February *Inflation Report*, the MPC has maintained the size of its asset purchase programme at £375 billion. Bank Rate remains at 0.5% and the timing of the first increase in Bank Rate implied by market interest rates has moved out to late 2016. The improvement of sentiment in global financial markets seen since the autumn of last year has persisted. Medium-term gilt yields have fallen by around 40 basis points over the past three months.

Banks' funding costs remain low and the rates on many household and corporate loans have continued to fall, although by less for smaller businesses. The recent extension of the Funding for Lending Scheme (FLS) should give lenders confidence that they will be able to access low-cost funding until the start of 2015. It also sharpens the incentives for banks to lend, in particular to smaller businesses and also to financial companies providing credit to the real economy. The general improvement in funding conditions, together with the extension to the FLS, should help to support lending growth. Net lending to the real economy remained moribund in the second half of 2012, but is likely to strengthen gradually over this year and next.

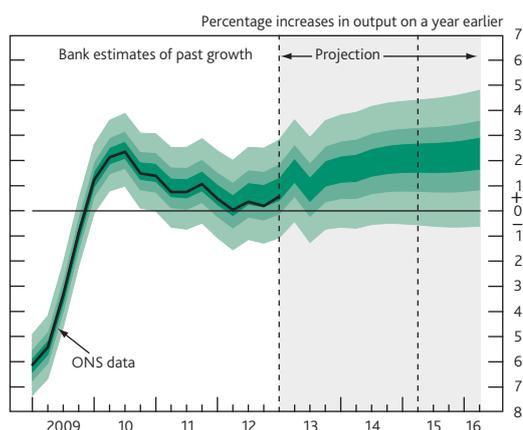
## Demand and supply

Domestic demand increased moderately during 2012, as the firming of households' real incomes supported a modest increase in consumer spending, and robust capital expenditure by energy companies outweighed falling investment in other sectors. But this expansion in domestic demand was largely offset by a marked fall in exports, as the growth in world demand slowed and the United Kingdom's share of that demand declined further. GDP is estimated to have increased by 0.3% in 2013 Q1 and quarterly GDP growth is likely to strengthen a little over the course of this year.

Employment growth eased back in the three months to February. But its pace over the past two years has far exceeded that of output, such that labour productivity has fallen back to levels last seen in 2005. This suggests that the effective capacity of the economy to supply goods and services today may have been impaired. That may be related to the weakness of demand and so may lessen as the economy recovers. But it may also reflect other factors, such as a damaged banking sector, which persist even as output recovers.

The MPC's projections are conditioned on the tax and spending plans set out in the March 2013 *Budget*. They also take account of the recommendations of the interim Financial Policy Committee (FPC), including the recommendation at its March meeting that some banks needed to improve their capital positions.

**Chart 1** GDP projection based on market interest rate expectations 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.

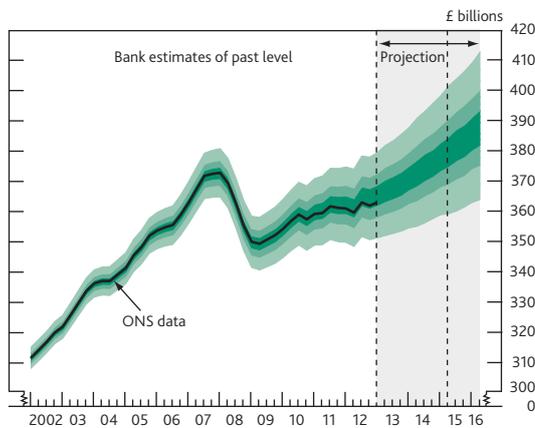
## The outlook for GDP growth

Chart 1 shows the Committee's best collective judgement for four-quarter GDP growth, assuming that Bank Rate follows a path implied by market interest rates and the size of the asset purchase programme stays at £375 billion. Both demand and effective supply look set to pick up gradually over the next year or so, supported by past asset purchases, a further easing in credit conditions helped by the FLS extension, and a gradual fading of the impact of the financial crisis on household and business spending. But the hangover of adjustments and rebalancing prompted by the financial crisis means that the recovery is likely to remain weak by historical standards, with GDP more likely than not to remain below its pre-crisis level for another year or so (Chart 2).

The main risks to the recovery continue to emanate from abroad. Although financial tensions have abated since last summer, there remains a risk that the required adjustments to indebtedness and competitiveness within the euro area occur in a disorderly manner. Although the Committee's fan charts exclude these more extreme outcomes, they embody the assumption that those adjustments will nevertheless be associated with a prolonged period of weak growth and heightened uncertainty.

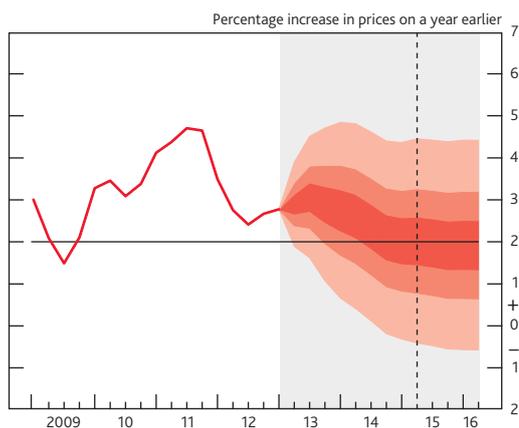
The pace and durability of the UK recovery will also depend upon: the extent to which the legacy of the financial crisis

**Chart 2** Projection of the level of GDP based on market interest rate expectations and £375 billion asset purchases



Chained-volume measure (reference year 2009). See the footnote to Chart 1 for details of the assumptions underlying the projection for GDP growth. The width of this fan over the past has been calibrated to be consistent with the four-quarter growth fan chart, under the assumption that revisions to quarterly growth are independent of the revisions to previous quarters. Over the forecast, the mean and modal paths for the level of GDP are consistent with Chart 1. So the skews for the level fan chart have been constructed from the skews in the four-quarter growth fan chart at the one, two and three-year horizons. This calibration also takes account of the likely path dependency of the economy, where, for example, it is judged that shocks to GDP growth in one quarter will continue to have some effect on GDP growth in successive quarters. This assumption of path dependency serves to widen the fan chart.

**Chart 3** CPI inflation projection based on market interest rate expectations and £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.

continues to weigh on household and company spending; the degree to which productivity and expectations of future output pick up alongside demand; the impact of the fiscal consolidation; and whether credit conditions ease further and prompt higher lending to the real economy. An improvement in banks' capital positions on the back of the FPC's recommendation should help to support lending growth.

Taking those risks into account, the Committee's best collective judgement is that the economy is likely to see a modest and sustained recovery over the next three years.

### Costs and prices

CPI inflation was 2.8% in March. Administered and regulated prices, which are largely determined by regulatory factors, rather than the balance of domestic demand and supply, continued to contribute around 1 percentage point to CPI inflation. Most measures of long-run inflation expectations remain close to their series averages.

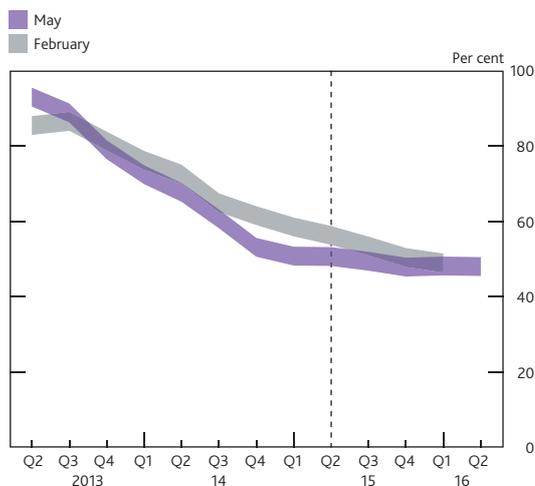
In contrast to previous downturns, labour market participation has been surprisingly resilient since the financial crisis. By bolstering the supply of labour, this resilience has helped to contain pay growth, which was especially weak in the second half of last year. But in terms of unit labour cost growth, that weakness was broadly offset by the weakness of productivity growth.

### The outlook for inflation

Chart 3 shows the Committee's best collective judgement of the outlook for CPI inflation, based on the same assumptions as Chart 1. Inflation is likely to edge higher in coming months and is more likely than not to remain above 2% for much of the next two years. This further sustained period of above-target inflation largely reflects the impact of the depreciation of sterling earlier this year and the judgement that the unusually large contribution from administered and regulated prices will persist. Despite that, inflation is likely to fall back to around the 2% target by the latter part of the forecast period as external price pressures fade. A gradual revival in productivity growth, combined with persistent spare capacity, should dampen domestic cost pressures sufficiently to offset the sustained elevated contribution from administered and regulated prices.

The Committee judges that demand and effective supply are likely to continue to move broadly in tandem over the forecast period, such that were demand to be stronger that would likely be accompanied by stronger supply, and *vice versa*. As a consequence, the risks surrounding the growth outlook do not automatically map into corresponding risks for spare capacity and inflation. That said, there remains uncertainty about the size and likely path of spare capacity, as well as its impact on wages and prices. In particular, it is unclear whether spare capacity will dampen domestic cost pressures sufficiently to offset the unusually large and persistent contribution from administered and regulated prices.

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



The May and February swathes in this chart are derived from the same distributions as **Chart 3** and **Chart 5.4** on page 39 respectively. They indicate the assessed probability of inflation being above target in each quarter of the forecast period. The 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 May projection. The two-year point of the February projection was one quarter earlier.

There are a number of other sources of uncertainty affecting the outlook for inflation. As ever, inflation may be buffeted by movements in the exchange rate and commodity prices, both of which are prone to move sharply. It is unclear for how long inflation can remain above the target before it affects public perceptions of the MPC's determination to keep inflation close to the 2% target, with potential implications for wages and prices. The path of inflation will also depend upon the extent to which companies' profit margins are restored through higher prices, rather than through slower cost growth.

There remains a range of views among Committee members regarding the relative strength of these different factors. On balance, the Committee's best collective judgement is that inflation is more likely to be above than below the 2% target for much of the next two years, but those risks are broadly balanced in the latter part of the forecast period (**Chart 4**).

## The policy decision

The nature of the shocks affecting the UK economy in recent years — which have weakened output growth, but raised inflation — have posed substantial challenges for monetary policy. In particular, such shocks mean that the Committee faces a trade-off between the speed with which inflation is returned to target and the support that monetary policy can provide to output and employment. As set out by the Chancellor in his March 2013 *Budget*, the Committee's latest remit requires that the MPC promote understanding of the short-run trade-offs inherent in the setting of monetary policy.

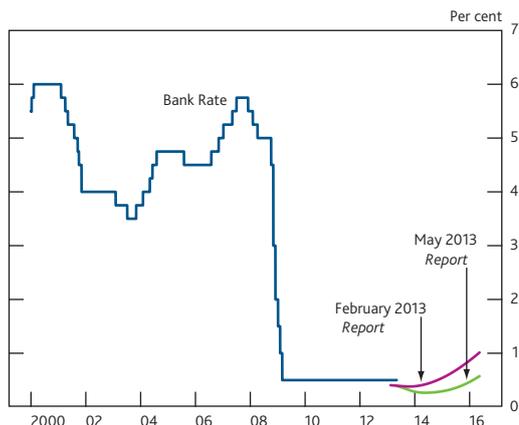
The Committee has always recognised such short-run trade-offs. In particular, under its remit, the Committee has the flexibility to temper the speed at which it seeks to return inflation to target in order to limit the volatility in output, subject to meeting the inflation target in the medium term. This consideration was central to the Committee's policy decision in February, for example. When judging the appropriate speed with which to return inflation to the target, the Committee has particular regard to the likely medium-term consequences of its decisions both for the long-term supply capacity of the economy, and for confidence in the achievement of the inflation target over the medium term, which allows the Committee to respond effectively to shocks in the future.

At its May meeting, the Committee agreed that a modest and sustained recovery in output was in prospect. Inflation was likely to remain above the target for much of the next two years, although the risks around the target were broadly balanced in the latter part of the forecast period. Monetary policy remained highly stimulatory. In the light of those considerations, the Committee judged that, in order to meet the 2% CPI target in the medium term while providing continuing near-term support to the economic recovery, it was appropriate to maintain the current stance of policy. It therefore voted to keep Bank Rate at 0.5% and the size of the asset purchase programme at £375 billion.

# 1 Money and asset prices

Market sentiment has remained positive, supported by several major policy actions since mid-2012. And potentially adverse events, such as the Cypriot banking crisis, have had limited effects. UK banks' funding costs have remained low and loan rates faced by households and some businesses have continued to fall. Although lending has remained weak, particularly for businesses, corporate bond issuance has continued to be very strong. Credit conditions suggest a modest improvement in loan growth over the rest of 2013, supported by the extension of the Funding for Lending Scheme.

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



Sources: Bank of England and Bloomberg.

(a) The February 2013 and May 2013 curves are estimated using overnight index swap rates in the fifteen working days to 6 February 2013 and 8 May 2013 respectively.

## 1.1 Monetary policy

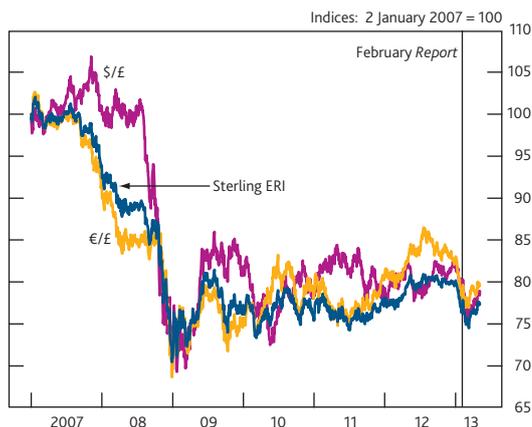
At its May meeting, the MPC voted to maintain the stock of asset purchases, financed by the issuance of central bank reserves, at £375 billion and Bank Rate at 0.5%. The reasons behind the MPC's recent policy decisions are discussed in more detail in the box on page 18. The median expectation in a Reuters poll of economists, conducted prior to the May MPC meeting, was for an eventual £25 billion of additional asset purchases, but few expected a change at the May meeting. The market-implied path of short-term interest rates has fallen since February, indicating that an increase in Bank Rate to 0.75% was not fully priced into overnight index swap rates until late 2016 (**Chart 1.1**).

Monetary policy remains highly stimulatory in advanced economies. Some central banks have loosened policy further during the past three months. The European Central Bank cut the interest rate on its main refinancing operations by 25 basis points. And the Bank of Japan (BoJ) launched a major new monetary stimulus package (see the box on page 10).

## 1.2 Financial markets

The improvement in market sentiment that began in mid-2012 has persisted, supported by several major policy initiatives. For example, the BoJ's policy announcement was associated with a rise in a range of asset prices, together with a fall in the value of the yen. Against this backdrop, potentially adverse events have had little lasting effect. For example, market reaction was generally muted following the outcome of negotiations to resolve a sovereign debt and banking crisis in Cyprus in which bond holders and uninsured depositors of the two largest Cypriot banks bore some of the banks' losses. Meanwhile, in Italy, an inconclusive general election was followed by a period of political uncertainty — again, without a lasting impact on most asset prices.

**Chart 1.2** Sterling exchange rates



## Bank of Japan monetary stimulus

In April 2013, the Bank of Japan (BoJ) launched a major new monetary stimulus package, as part of a wider set of policy measures involving both fiscal stimulus and structural reform. Against a backdrop of persistently weak Japanese growth and inflation, the aim of the package is to meet the BoJ's recently adopted 2% inflation target as early as possible. Key features of the package include: doubling the monetary base over the next two years — predominantly through a large increase in Japanese government bond (JGB) purchases; doubling the bank's holding of private sector risky assets, such as equities (via exchange-traded funds); and purchasing longer-maturity bonds, which will more than double the average maturity of the BoJ's JGB holdings, bringing it closer to that on government bonds purchased by the Bank of England and the US Federal Reserve.

The package is likely to lead to a substantial expansion in the BoJ's balance sheet to around two thirds of nominal GDP by the end of 2015 — nearly 30 percentage points greater than the expected level prior to the announcement. Based on current announcements, that suggests that the BoJ's balance sheet would become much larger than either the Bank of England's or US Federal Reserve's balance sheets, relative to

**Table 1** Movements in asset prices following the Bank of Japan's policy announcement

	Changes <sup>(a)</sup>	
	3–4 April	3 April to May Report
Ten-year JGB yield	-11 basis points	3 basis points
Yen ERI	-3.6%	-6.3%
Topix	2.7%	14.5%

Sources: Bloomberg and Thomson Reuters Datastream.

(a) The Bank of Japan made its policy announcement before UK markets opened on 4 April. Based on change in prices from 5 pm British Summer Time on 3 April 2013. Changes to May *Inflation Report* are based on a fifteen working day average ending on 8 May 2013.

nominal GDP. Gross JGB purchases are expected to amount to 70% of gross Japanese government debt issued during fiscal year 2013.

Although further stimulus had been anticipated, the size of the BoJ's package surprised markets. Among the subsequent moves across asset classes, the rise in the Topix equity index and the depreciation of the yen were particularly marked (**Table 1**). Investors remain uncertain about the extent to which money created by the BoJ will flow into financial markets abroad. But an expectation of such spillovers does appear to have had a material impact on various international asset prices. For example, contacts link some of the recent falls in Spanish and Italian bond yields (**Chart 1.3**) to these expected flows.

### Exchange rates

Ahead of the *May Report*, the sterling effective exchange rate was broadly in line with its level in the run-up to the *February Report*, and near to its average level since early 2009 (**Chart 1.2**). The value of sterling against the US dollar, and its value against the euro have fluctuated since the previous *Report*. But both are broadly in line with their levels in the run-up to the *February Report*.

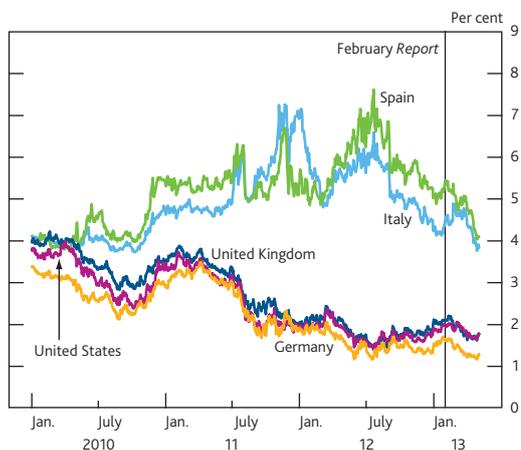
### Government bonds

Euro-area periphery sovereign bond yields have fallen since February, and were little affected by events in Cyprus and Italy. In general, market contacts have attributed the robustness of market sentiment to sustained investor confidence in potential support from European policymakers.

In the run-up to the *May Report*, Spanish and Italian ten-year government bond yields were well below their levels at the time of the *February Report*, with the latter more than unwinding the rises that occurred around the time of the general election (**Chart 1.3**). Although yields are close to recent lows, spreads over German government bond yields remain elevated, albeit less so than in mid-2012. This reflects continuing concerns about the indebtedness and competitiveness of those countries.

In common with yields on other perceived safe-haven government bonds, the rise in gilt yields at the start of 2013

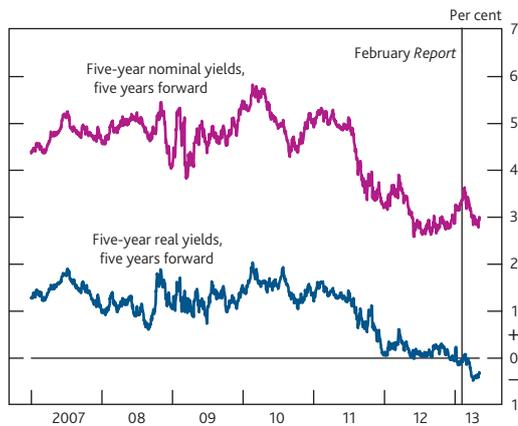
**Chart 1.3** Selected ten-year government bond yields<sup>(a)</sup>



Source: Bloomberg.

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

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



Sources: Bloomberg and Bank calculations.

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

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



Source: Thomson Reuters Datastream.

(a) In local currency terms.

**Table 1.A** PNFCs' net external finance raised<sup>(a)</sup>

£ billions	Quarterly averages				
	2003–08	2009–11	2012 H1	2012 H2	2013 Q1
Loans	11.5	-6.8	-5.5	-3.6	-1.7
Bonds <sup>(b)(c)</sup>	3.4	2.4	5.2	4.5	7.9
Equities <sup>(b)</sup>	-2.1	2.5	-2.4	-1.6	0.9
Commercial paper <sup>(b)</sup>	0.0	-0.5	-0.1	-0.2	0.4
Total <sup>(d)</sup>	12.7	-2.3	-3.8	0.4	8.5

(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.

was reversed by the end of March. In part, this probably reflected the impact of events in the euro area on investors' risk perceptions. Gilt yields subsequently fell further following the BoJ's policy announcement, as investors anticipated that some of the money created by the BoJ would result in higher demand for non-Japanese assets, including gilts. Neither the restatement of the MPC's remit announced in the March 2013 *Budget*, nor the decisions of ratings agencies Fitch and Moody's to downgrade the sovereign rating of the United Kingdom from AAA, had a material impact on yields. Overall, ten-year gilt yields were roughly 40 basis points lower in the run-up to the May *Report* than at the time of the February *Report*.

Investor pessimism about long-run growth prospects and an expectation that policy stimulus will remain in place for some time are likely to have weighed on yields. Indeed, UK real rates — based on RPI inflation indexed bond yields — have fallen to new lows, with some longer-term rates turning negative over recent months (Chart 1.4). Breakeven inflation rates — a proxy for inflation expectations derived from the differences between these longer-term real and nominal rates — were broadly unchanged (Section 4).

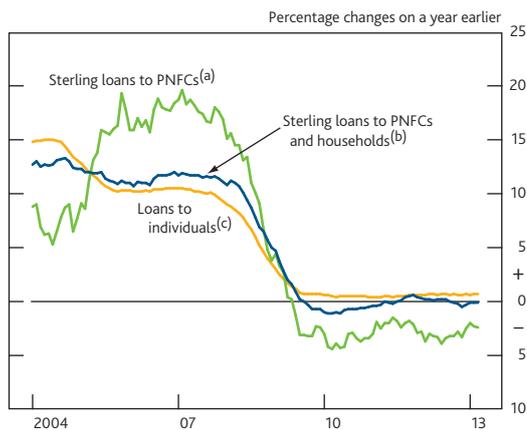
### Equities and corporate bonds

Most major equity indices have risen since the February *Report* (Chart 1.5). Both the FTSE All-Share and the S&P 500 are at or close to their pre-crisis peaks in nominal terms. Those rises are unlikely to have been driven by expectations of dividend growth, which have been fairly muted since the crisis, although actual dividend growth was strong in 2012. Falls in long-term interest rates, in part as a result of large-scale asset purchases by central banks, are, however, likely to have played a key role. Moreover, the compensation for taking equity risk demanded by investors appears to have fallen somewhat since mid-2012, also supporting equity prices. That said, estimates of these equity risk premia do not appear particularly compressed relative to their averages since 2000. It is likely that some of the recent falls in risk premia have been associated with investors' belief in policymakers' greater willingness and ability to mitigate downside risks to growth.

The fall in risk premia since mid-2012 has also been apparent in the corporate bond market. Corporate bond spreads have fallen further since the February *Report* and UK corporate bond yields have been low by historical standards. These low yields have supported gross bond issuance by UK private non-financial corporations (PNFCs), with volumes of primary market activity at the start of 2013 very strong, even relative to the strong issuance seen in 2012 (Table 1.A).

## 1.3 The banking sector

Bank lending to UK households and companies fell sharply after the financial crisis and has remained very weak since (Chart 1.6). In part, that reflected lenders reassessing the

**Chart 1.6 Loans to PNFCs and households**

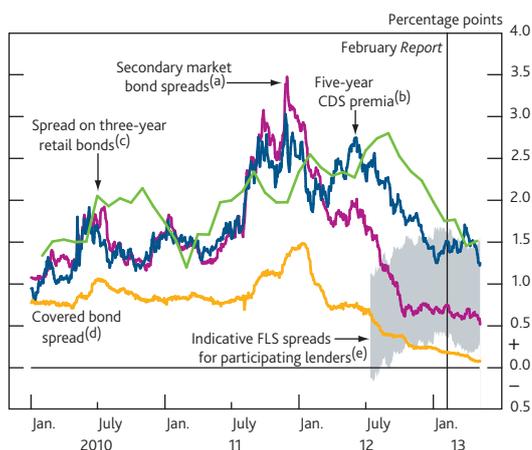
- (a) M4 loans excluding the effects of securitisations and loan transfers.  
 (b) Sterling loans by UK-resident monetary financial institutions (MFIs) and related specialist mortgage lenders excluding the effects of securitisations and loan transfers. Funding for Lending Scheme measure. Non seasonally adjusted.  
 (c) Sterling loans by UK-resident MFIs and other lenders. Excludes student loans.

appropriate size and composition of their balance sheets, including the adequacy of their capital. These factors will influence the cost at which banks can obtain funding, and hence the cost of loans to the real economy.

### Banks' balance sheets

Several major UK lenders have adjusted the scale and composition of their loan portfolios in recent years, with some — such as Lloyds Banking Group (LBG) and the Royal Bank of Scotland (RBS) — planning further adjustments. That is one way that banks can improve capital adequacy ratios and hence resilience. As part of this, several lenders have reduced, or are in the process of reducing, their exposures to commercial real estate, which accounted for around 35% of outstanding loans to non-financial businesses in 2012.

The process of balance sheet restructuring is likely to have held back aggregate net lending in the recent past: even if banks were willing to lend more to some types of borrowers, deliberate reductions in other exposures have offset that. Indeed, balance sheet restructuring being undertaken by LBG, RBS and Santander UK helps to explain why net lending by these Funding for Lending Scheme (FLS) participants has contracted since the launch of the Scheme.<sup>(1)</sup> Once banks have completed this restructuring process, they may find it easier to expand their net lending. Published accounts for 2012 suggest that some major UK lenders are making material progress against their current restructuring plans.

**Chart 1.7 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) 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.  
 (c) Sterling only. Spread over the relevant swap rate. The three-year retail bond rate is a weighted average of rates from banks and building societies within the Bank of England's quoted rates sample.  
 (d) 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. The selected bonds have residual maturities of between three and seven years.  
 (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.

According to the Financial Policy Committee's (FPC's) statement following its meeting on 19 March, some banks will need to improve their capital positions in order to ensure sufficient capacity to absorb losses and sustain lending.<sup>(2)</sup> For these banks, meeting the target capital ratio set by the FPC in 2013 will involve making up an aggregate capital shortfall worth around £25 billion. The FPC have recommended that the Prudential Regulation Authority ensures that affected banks meet any shortfall by issuing new capital or restructuring their balance sheets in a way that does not hinder lending to the economy. The box on pages 16–17 sets out some of the ways in which FPC policy actions might affect the cost and availability of credit, and hence activity and inflation.

### Bank funding costs

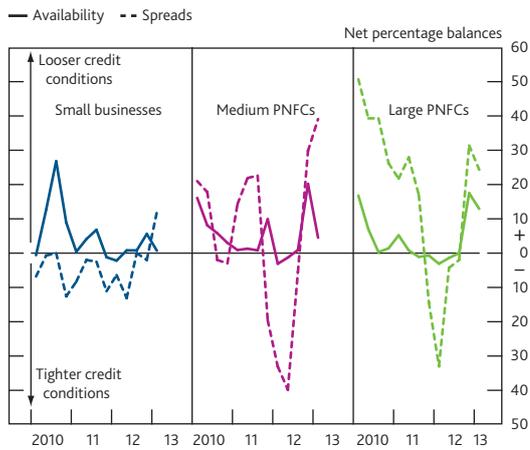
Perceptions of banks' capital adequacy are one driver of their funding costs. And indicative measures of UK banks' funding costs have fallen slightly further since February (Chart 1.7).

Another influence on bank funding costs is the supply of bank debt, issuance of which, according to market contacts, has remained low relative to investor demand. In part, low issuance reflects the fact that some lenders reduced the size of their

(1) For data on net lending by FLS participants, see [www.bankofengland.co.uk/markets/Pages/FLS/data.aspx](http://www.bankofengland.co.uk/markets/Pages/FLS/data.aspx).

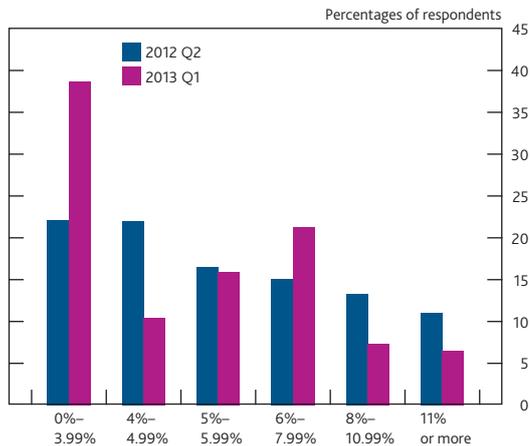
(2) The FPC's March policy statement is available at [www.bankofengland.co.uk/publications/Pages/news/2013/013.aspx](http://www.bankofengland.co.uk/publications/Pages/news/2013/013.aspx).

**Chart 1.8 Credit Conditions Survey: changes in availability of credit and spreads on corporate loans<sup>(a)</sup>**



(a) Weighted responses of lenders. A positive (negative) balance indicates that more (less) credit was available or that spreads over reference rates had fallen (risen) over the past three months.

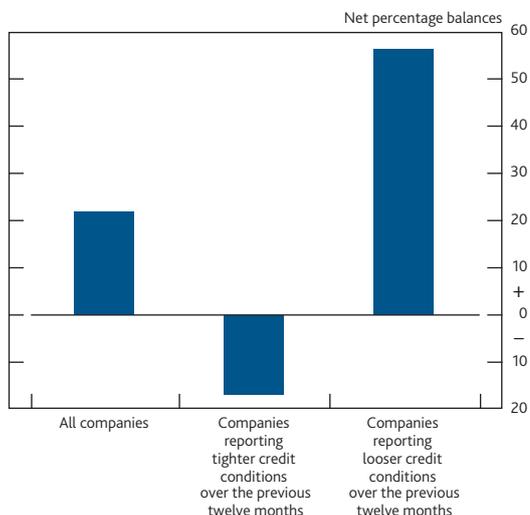
**Chart 1.9 Distribution of loan rates offered to small businesses<sup>(a)</sup>**



Source: FSB 'Voice of Small Business' Panel.

(a) Interest rates that small businesses that successfully applied for bank credit reported that they were 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](http://www.fsb.org.uk/frontpage/assets/q1%20vosb.pdf).

**Chart 1.10 Agents' survey: companies' expected use of bank credit over 2013<sup>(a)</sup>**



(a) The balances show the proportion of companies, weighted by turnover, indicating whether they expected their use of bank credit to increase over the coming twelve months. The survey was based on over 370 respondents and was carried out between February and March 2013.

balance sheets and increased their funding from customer deposits. To a lesser extent, it may also reflect banks' plans to use the FLS to meet a portion of their funding needs.

One of the objectives of the FLS is to reduce participating lenders' funding costs by providing a cheap source of funding. The significant falls in market funding costs — relative to the cost of obtaining funding through the Scheme (represented by the grey swathe in **Chart 1.7**) — suggest that the marginal impact of the FLS through this channel has diminished since its launch. But the Scheme has other benefits. For example it assures access to cheap funding if market funding costs should rise — a backstop that is available until early 2015 following the extension to the Scheme announced on 24 April (see the box on page 14).

## 1.4 Credit conditions

Overall credit conditions have loosened appreciably since mid-2012, reflecting falls in funding costs, with further loosening expected. Net lending, which was broadly flat in 2012 H2, is expected to pick up modestly in the remainder of 2013. That compares with an expectation prior to the launch of the FLS that net lending would decline over 2012 and 2013.<sup>(1)</sup> The extent to which improvements in credit supply feed through to higher lending volumes will, however, also depend on credit demand.

### Credit conditions facing businesses

Credit conditions facing large companies are reported to have improved further in 2013 Q1 (**Chart 1.8**). And lenders expect a further easing in Q2 according to the Bank's *Credit Conditions Survey (CCS)*. Net lending to large businesses, nevertheless, remained weak (**Table 1.B**). This could reflect weak demand for bank credit. In particular, the largest companies are more likely to have access to alternative sources of external finance, such as corporate bond markets: the *Deloitte CFO Survey* suggests that these businesses view corporate bond issuance as particularly attractive at present. Indeed, corporate bond issuance was very strong in 2013 Q1 (**Table 1.A**), such that net finance raised was the highest since 2008.

Small and medium-sized enterprises (SMEs) are more reliant on banks for external finance. Credit conditions facing these enterprises appear to have improved since mid-2012, but by less than for large companies. According to the *CCS*, loan spreads fell slightly in 2013 Q1 and survey evidence from the Federation of Small Businesses (FSB) also suggested that the pricing of loans to small businesses was more favourable in Q1 than in mid-2012 (**Chart 1.9**). Nevertheless, applications for credit from small enterprises have yet to pick up and net lending to SMEs remained negative in Q1 (**Table 1.B**).

Survey evidence suggests that both lenders and borrowers expect corporate demand for loans to increase. For example,

(1) See Churm *et al* (2012), 'The Funding for Lending Scheme', *Bank of England Quarterly Bulletin*, Vol. 52, No. 4, pages 306–20.

## The extended Funding for Lending Scheme

On 24 April 2013, the Bank of England and HM Treasury announced an extension to the Funding for Lending Scheme (FLS). The FLS initially offered lenders cheap funding for a period of up to four years, with drawings possible under the Scheme until early 2014. The extension provides access to funding until early 2015. That should provide confidence to Scheme members expanding their lending to the real economy that they will continue to have access to cheap funding, even if stresses in bank funding markets were to re-emerge.

The extension also expands the FLS to cover lending to financial leasing and factoring corporations (which are a source of credit for small and medium-sized enterprises), as well as mortgage and housing credit corporations.<sup>(1)</sup>

The design of the extended Scheme particularly encourages lending to smaller businesses in 2013 and 2014 — thus far,

improvements in credit conditions have been more pronounced for secured household borrowers and large businesses, than for smaller businesses. Participants' initial access to the extended Scheme will be determined by their weighted net lending between 2013 Q2 and Q4, with the weight attached to lending to smaller businesses being ten times greater than other types of lending. Similarly, in 2014, additional access will also be linked to weighted net lending, with the weight attached to lending to smaller businesses five times greater than other types of lending.

The MPC uses data from a range of sources to assess the extent to which credit conditions have improved (see pages 14–15 of the November 2012 *Report*). **Table 1** summarises the latest information from these indicators and expectations for these indicators in light of the extension to the FLS. More information is contained in Sections 1.3 and 1.4.

(1) For an explanatory note providing more detail about the FLS extension, see [www.bankofengland.co.uk/markets/Documents/explanatorynotefls130424.pdf](http://www.bankofengland.co.uk/markets/Documents/explanatorynotefls130424.pdf).

**Table 1** Monitoring developments in credit conditions

	Recent developments	In line with expectations in February?	Anticipated developments
<b>Stage 1</b> Bank funding costs	Most indicators of bank funding costs have stabilised at low levels.	Broadly in line.	Bank funding costs expected to remain low; FLS acts as a backstop.
<b>Stage 2</b> Quoted terms and credit availability	Lenders report that spreads have fallen for companies of all sizes ( <b>Chart 1.8</b> ).  Mortgage rates fallen slightly further. High loan to value availability increased.	Pass-through of lower funding costs somewhat slower than anticipated.	Further reductions in household and corporate loan rates expected.
<b>Stage 3</b> Loan applications and approvals	Demand for loans from companies subdued. Loan applications from small businesses flat.  Mortgage approvals broadly flat in 2013 Q1.	Mortgage approvals have picked up by less than expected.	Business survey evidence that the supply of credit to small companies is increasing along with their loan demand.  Mortgage approvals to pick up.
<b>Stage 4</b> The flow of credit and effective rates	Lending to businesses and households remains weak ( <b>Chart 1.6</b> ).	Broadly in line.	Gradual improvement over the remainder of the year and 2014.

**Table 1.B** Gross and net lending to UK non-financial businesses<sup>(a)</sup>

£ billions	2011 <sup>(b)</sup>	2012				2013
		Q1	Q2	Q3	Q4	Q1
Gross lending to large businesses	32.7	28.3	25.9	24.3	29.3	28.4
Gross lending to SMEs	11.4	10.1	9.5	9.1	9.4	10.2
Net lending to large businesses	-2.7	-8.3	-4.9	-2.1	-3.9	-1.4
Net lending to SMEs	-0.9	-2.0	-1.5	-1.4	-1.5	-0.2

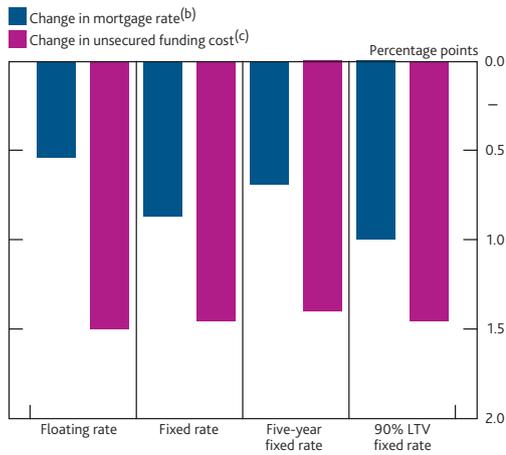
(a) Non seasonally adjusted quarterly flows of sterling and foreign currency lending from UK MFIs to non-financial businesses. Small and medium-sized enterprises (SMEs) are defined as those with an annual debit account turnover on the main business account of up to £25 million. Those with an annual debit account turnover on the main business account above £25 million are termed 'large businesses'. Data are available from 2011 Q2.

(b) Quarterly average 2011 Q2–Q4.

companies surveyed by the Bank's Agents, on balance, expected to increase bank credit use over the next twelve months (**Chart 1.10**). But the extent of any increase will depend on the macroeconomic outlook, as well as the perceived reliability of bank credit as a source of finance — in the Agents' survey, companies that had experienced tighter credit conditions expected to reduce their demand for loans.

### Household credit conditions and the housing market

Credit conditions facing households wishing to take out mortgages have eased slightly further since February. And FLS participants report that the incentives to lend provided by the Scheme have boosted mortgage market competition,

**Chart 1.11** Changes in quoted mortgage rates and indicative UK bank funding costs<sup>(a)</sup>

Sources: Bank of England, Bloomberg and Bank calculations.

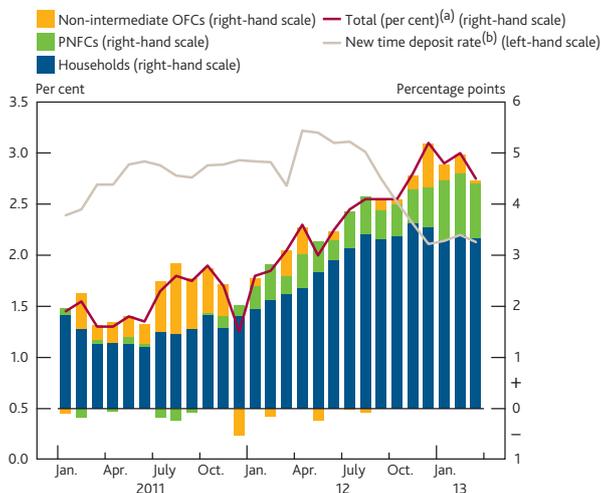
- (a) Change between 30 June 2012 and 30 April 2013.  
 (b) Two-year 75% loan to value (LTV) mortgages unless otherwise stated.  
 (c) For fixed-rate mortgages, calculated as the sum of indicative UK bank secondary market bond spreads and the swap rate corresponding to the term of the mortgage. See footnote (a) of Chart 1.7. For floating-rate mortgages, three-month Libor is used in place of a swap rate.

**Table 1.C** Housing market indicators

	Averages since 2000 <sup>(a)(b)</sup>	2011 <sup>(a)</sup>	2012		2013	
			H1 <sup>(a)</sup>	H2 <sup>(a)</sup>	Q1 <sup>(a)</sup>	
<b>Activity</b>						
Property transactions (000s) <sup>(c)</sup>	94	74	78	77	84	
Mortgage approvals (000s) <sup>(d)</sup>	84	49	51	51	53	
RICS sales to stocks ratio <sup>(e)</sup>	0.34	0.21	0.23	0.23	0.25	
<b>Prices (percentage changes)</b>						
	Change 2007 Q4–2013 Q1	Average monthly changes				
		2011	2012		2013	
			H1	H2	Q1	Apr.
Halifax	-16.8	-0.2	0.3	0.1	0.2	1.1
Nationwide	-10.7	0.1	-0.3	0.1	0.2	-0.1

Sources: Bank of England, Halifax, HMRC, Nationwide and Royal Institution of Chartered Surveyors (RICS).

- (a) Averages of monthly data.  
 (b) Except for property transactions, which is an average since April 2005.  
 (c) Number of residential property transactions with value £40,000 or above.  
 (d) Loan approvals for house purchase.  
 (e) Ratio of sales recorded over the past three months to the level of stock on estate agents' books at the end of the month.

**Chart 1.12** Contributions to twelve-month broad money growth, and time deposit interest rate

- (a) Growth in M4 excluding intermediate other financial corporations (OFCs). May not equal the sum of its components due to the method of calculation.  
 (b) Monthly average of UK-resident MFIs' new sterling household time deposit rates. The Bank's effective interest rate series are compiled using data from 24 UK MFIs. Non seasonally adjusted.

including for higher loan to value products, where the falls in quoted loan rates have been most notable. Nevertheless, given that funding costs have remained low, quoted interest rates on new mortgages have not fallen as much as anticipated at the time of the February Report.

The extent of the declines in bank funding costs since mid-2012 suggests that further falls in mortgage rates are possible (Chart 1.11), as do lenders' responses to the Q1 CCS. But the precise size of falls across different types of mortgage products is likely to vary.

The scale of the prospective pickup in secured lending to households will depend on how households respond to improvements in credit supply. The loosening of credit conditions for secured household borrowers is yet to feed through into a sustained pickup in mortgage approvals, which have been weak relative to the increases anticipated at the time of the February Report. That said, approvals are still likely to rise over the rest of 2013 and lenders continue to anticipate an increase in household demand for loans over the coming months as borrowers respond to the more attractive loan rates on offer. In time, that should feed into a pickup in mortgage lending, which has, as expected, so far remained at low levels.

Increased mortgage lending should boost housing market activity, as should HM Treasury's Help to Buy equity loan scheme (Section 2). Despite weakness in approvals, housing transactions rose in 2013 Q1. House prices appear to have increased slightly over the past year (Table 1.C).

Credit conditions for unsecured lending have also improved. Average quoted loan rates on unsecured personal loans have fallen by around 150 basis points since mid-2012. And there are signs that household demand for unsecured credit is responding to this fall, with net unsecured lending rising in Q1.

## 1.5 Money

In 2013 Q1, four-quarter growth in broad money was 4.5% — above its recent average (Chart 1.12). Money growth during the second half of 2012 was boosted by the MPC's round of asset purchases that was completed in November 2012. But growth in Q1 was unexpectedly strong. That in part reflects a recent rise in PNFC money growth. Flows of household deposits, the main contributory factor to the pickup in money growth in 2012, also remained robust in Q1, despite previous falls in interest rates on new time deposits (Chart 1.12).

Consistent with these data, respondents to the Bank's new *Bank Liabilities Survey* noted an increase in the supply of deposits from households and PNFCs in Q1, while lenders also reported that improved bank liquidity positions had weakened their demand for deposits.

## Macroprudential policy and credit conditions

The Financial Policy Committee (FPC) was established on a statutory basis in April 2013. The FPC's primary objective is to protect and enhance the resilience of the financial system.<sup>(1)</sup> The macroprudential and other policy actions that the FPC can take in pursuit of that objective — such as setting requirements for banks' capital — can affect the outlook for the real economy. For that reason, and subject to achieving the primary objective, the FPC has a secondary objective to support the Government's economic policy, including its objectives for growth and employment. This is identical to the Monetary Policy Committee's (MPC's) secondary objective.

Financial stability is a vital precondition for maintaining price stability and for supporting growth and employment. A stable and resilient financial system should help to allocate credit efficiently and effectively, help the real economy to adjust to shocks, and transmit monetary policy impulses to the economy effectively and predictably.

The MPC's remit requires it to explain how it has taken account of the FPC's policy actions when setting monetary policy. This box sets out the channels through which, in general, FPC tools and recommendations that affect capital requirements could influence credit conditions;<sup>(2)</sup> it considers the prospective effects of the interim FPC's existing recommendations; it also sets out the links between credit conditions and the real economy.

### Credit conditions and FPC actions on banks' capital

Banks can finance lending from a variety of sources. To some extent, lending for the system as a whole is self-financing in that the recipients of the loans, or the eventual recipients of the spending financed by the loans, make deposits in banks. But what is true for the system as a whole is not necessarily true for an individual bank. The ability of a bank to attract the deposits or funding from wholesale debt markets that it needs will reflect the confidence of depositors and investors in that bank. Equity capital is also a source of funds, but one that the bank has no obligation to repay. The more equity capital a bank has, therefore, the more it is able to bear the risks on its lending and other exposures and the more confidence investors and depositors can have that they will get their money back.

By ensuring that banks have sufficient equity capital, the FPC and the Prudential Regulation Authority (PRA) should in general reduce the risk that banks' solvency is seriously threatened — a situation faced by a large number of institutions domestically and internationally during the recent financial crisis. That should, in turn, help to ensure that banks are able to continue to fund themselves at reasonable rates, and a lower cost of bank funding will tend to mean a lower

cost of borrowing for households and companies. It may also alter expectations about credit conditions. In particular, when households and businesses are more confident in the financial system's ability to provide the facilities that they will need, the less savings they will need to hold as insurance against adverse developments in their finances (Channel A in **Figure A**).

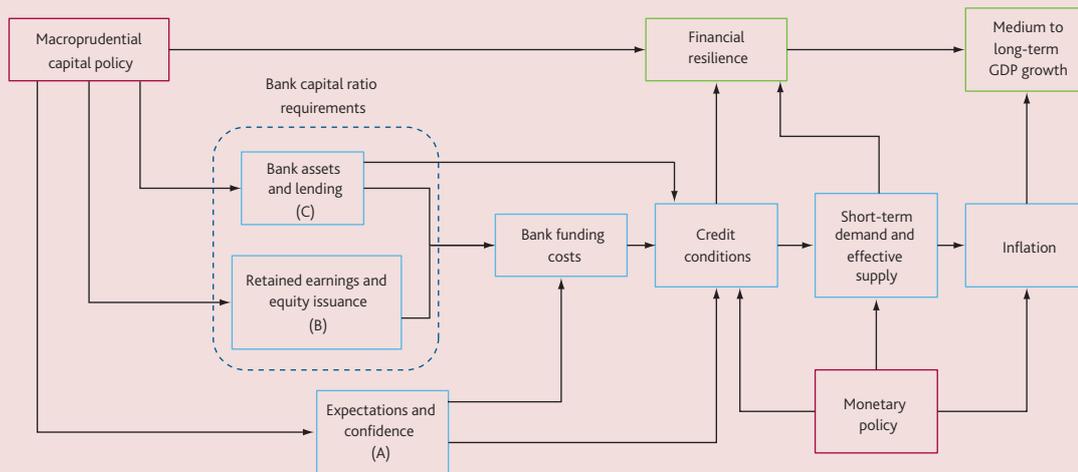
In theory, financing choices made by banks should have little effect on their overall funding costs. Although debt is typically cheaper than equity capital, banks that issue more debt would face an increase in the cost of that debt as investors will typically expect a higher return to compensate for the increased risk they face. Absent frictions, that increase in the cost of debt should broadly offset any gains from shifting away from relatively more expensive equity capital.

In practice, however, there are reasons why the proportion of a bank's assets that is financed with equity is relevant for their overall cost of funding. For example, the significant costs to debt holders of insolvency and liquidation may mean that debt-financing costs, and hence overall funding costs, are particularly sensitive to market views of the adequacy of a bank's equity cushion. Those views will vary with current and prospective economic and financial conditions. By contrast, any perception that governments may shield banks' creditors from losses in the event of insolvency will, alongside the tax-deductibility of interest, tend to favour debt finance over equity finance.

In consequence, in an environment where market participants perceive the risks to the banking system to be small, or where an implicit 'too important to fail' subsidy from the government is perceived to be high, banks may be able to borrow at a rate that is relatively insensitive to their capital. In that environment, if the FPC were to judge that the risks to overall financial stability were greater than the market believed and so recommended or directed an increase in bank capital requirements, that may cause banks' overall cost of funding to rise: banks will switch toward more expensive equity financing and if investors absorb the FPC's view on emerging threats to stability that may push up the cost of financing both debt and equity. Overall, that might lead to tighter credit conditions in the short term; and, particularly during a period of rapid growth in credit, might help to moderate the build-up of vulnerabilities. Even if such FPC actions did not dampen credit expansion, they would improve the resilience of the banking system and its ability to maintain lending in the face of future losses.

By contrast, when the risk of financial instability is high, banks' borrowing costs may be particularly sensitive to perceptions of their capital adequacy. For those banks that are perceived by the market to be inadequately capitalised, official action to increase their equity capital is likely to reduce the cost of their

**Figure A** Selected impact channels of macroprudential capital policy and credit conditions



existing funding, possibly significantly. That could more than offset the cost of having to finance a greater share of their activities with equity, and so reduce their overall funding costs. Lower funding costs will tend to improve credit availability, in turn supporting economic activity and reducing the risk of further losses on banks' assets. Even where funding costs rise in the short run, higher equity capital places banks in a better position to pursue lending opportunities.

The impact on credit conditions will also depend in part on how institutions seek to adjust to changes in capital requirements. In principle, institutions can meet a higher required capital ratio in two main ways: by changing the level of equity capital that they hold — for example, by raising new equity or retaining more of their earnings (Channel B in **Figure A**); or by reducing the size and/or composition of their assets, including claims on other financial institutions, foreign lending and lending to the UK real economy (Channel C in **Figure A**). The latter set of responses is likely to have a more damaging effect on credit supply.

### Recent FPC recommendations on capital adequacy

The interim FPC's March recommendations to the PRA are intended to ensure that banks' and building societies' capital adequacy is properly assessed given the risks in the current macroeconomic and financial environment;<sup>(3)</sup> and that all major institutions have sufficient capital resources by the end of 2013 to make them sufficiently resilient to unexpected adverse developments. That should help to maintain low funding costs for those institutions. Improved capital adequacy should, therefore, help to support credit conditions and loan growth in the medium term.

In order to minimise the risk of a tightening in credit conditions in the very near term as banks adjust to these new requirements, the interim FPC recommended that the PRA ensure that banks and building societies achieve the desired

capital adequacy standard by issuing new capital or restructuring balance sheets in a way that does not hinder lending to the real economy. Section 5 discusses the MPC's view of the outlook for lending in light of this recommendation, and other influences.

### Credit conditions and the outlook for inflation

FPC actions that cause a sustained improvement in credit conditions should support consumption and investment, and therefore GDP growth. And any policy that generates greater confidence in the resilience of the financial system may give households and companies greater confidence in the future value of, and lower their perception of risks to, their income and wealth, which could also encourage spending.

The extent to which that feeds through into higher CPI inflation will depend on the extent to which the supply capacity of the economy is also affected by credit conditions. Looser credit conditions can reduce the cost of working capital, reduce the cost of investment in new supply capacity and may improve the allocation of resources to those companies with the greatest potential to boost productivity. Any resulting increase in supply capacity will mean that changes in credit conditions have smaller implications for the outlook for inflation than they do for the outlook for GDP growth.

(1) For more details on the objectives and full range of powers of the FPC, see Murphy, E and Senior, S (2013), 'Changes to the Bank of England', *Bank of England Quarterly Bulletin*, Vol. 53, No. 1, pages 20–28.

(2) For more details on the channels through which the FPC's Direction powers may affect credit conditions, see: 'The Financial Policy Committee's powers to supplement capital requirements: a draft policy statement' at [www.bankofengland.co.uk/financialstability/Documents/fpc/policystatement130114.pdf](http://www.bankofengland.co.uk/financialstability/Documents/fpc/policystatement130114.pdf).

(3) For details of the most recent interim FPC recommendations, see 'Record of the interim Financial Policy Committee meeting, 19 March 2013' at [www.bankofengland.co.uk/publications/Documents/records/fpc/pdf/2013/record1304.pdf](http://www.bankofengland.co.uk/publications/Documents/records/fpc/pdf/2013/record1304.pdf).

## Monetary policy since the February Report

The MPC's central projection in the February *Report*, under the assumptions that Bank Rate followed a path implied by market interest rates and that the stock of purchased assets financed by the issuance of central bank reserves remained at £375 billion, was for a slow, but sustained, recovery in demand growth. Under the same assumptions, the MPC judged that CPI inflation was likely to remain above the 2% target for the next two years, before falling back to the target by the end of the forecast period.

At the time of the MPC's meeting on 6–7 March, the Committee noted that the outlook for growth had not changed materially since February, and it remained probable that growth would pick up as the year wore on. Business surveys were consistent with roughly flat output in the first quarter. Meanwhile, developments in financial markets, which had been generally buoyant since the turn of the year, pointed to better growth prospects.

Twelve-month CPI inflation had been unchanged at 2.7% in January and the Committee noted that inflation was more likely to remain above the target than below it for much of the next three years, reflecting the recent depreciation of sterling and the impact of higher administered and regulated prices. Nevertheless, underlying domestically generated inflationary pressures remained, on the whole, contained.

The MPC continued to judge that, as long as domestic cost and price pressures remained consistent with inflation returning to the target in the medium term, it was appropriate to look through the temporary, albeit protracted, period of above-target inflation. A degree of slack remained in the economy; and the potentially positive response of supply capacity to increased demand meant that higher output growth would not necessarily lead to any material increase in inflationary pressure. But set against that, there was a risk that inflation expectations might drift up, given the extended period of above-target inflation, and that this could have adverse consequences for wage and price-setting behaviour.

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 a total of £400 billion. The Committee voted unanimously to maintain Bank Rate at 0.5%.

At the time of its meeting on 3–4 April, the Committee noted that the new MPC remit, as set out by the Chancellor of the Exchequer at the time of his March *Budget*, reaffirmed that monetary policy should be set to meet the 2% inflation target but in a way that avoided undesirable volatility in output. The

new remit also confirmed that the Committee should continue to look through temporary, even if protracted, periods of above-target inflation where it judged that cost and price pressures were consistent with inflation returning to the target in the medium term.

The outlook for activity and inflation remained broadly in line with that set out in the February *Report*. Business surveys suggested that the pace of expansion in the UK economy was likely to remain muted during the first half of 2013. In line with market expectations, inflation had risen to 2.8% in February, and was still expected to pick up to around 3% in the middle of the year. But given news on duties and oil prices during the month, the overall outlook for inflation was similar to that published in February.

The Committee noted that the weakness of wage growth was consistent with there being significant slack in the economy; that prospects for growth remained subdued; and that it was possible that higher demand would itself raise productivity, in which case higher output need not be associated with a material increase in inflationary pressure. But the Committee also noted that inflation expectations had drifted upwards in recent months and judged there was a risk that further policy easing might have implications for the value of sterling and hence wages and prices.

In addition, the Committee judged that the extent to which supply capacity would respond to greater demand would depend on how quickly capital and labour could be redeployed from declining to growing businesses, and that this issue was better addressed by policies to improve the working of credit markets. Following the FPC's March policy statement, the Committee agreed that a well-capitalised banking system was essential to improving the supply capacity of the economy in the medium term, and also saw merit in possible extensions to the FLS that would boost lending further.

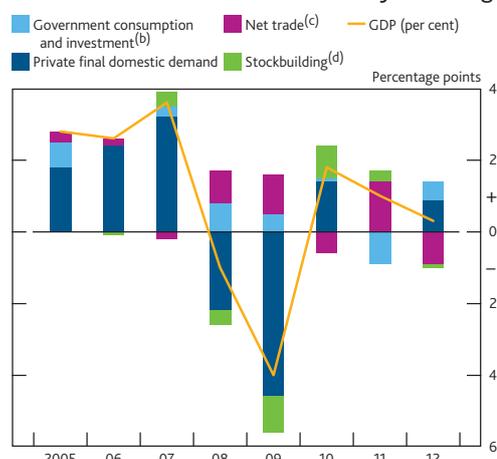
Against that backdrop and taking into account the FPC's policy statement, six members voted to maintain the stock of asset purchases, while three voted to increase the size of the asset purchase programme by a further £25 billion to a total of £400 billion. The Committee voted unanimously to maintain Bank Rate at 0.5%.

At its meeting on 8–9 May, the Committee 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.

# 2 Demand

Demand growth remained subdued in 2012. Household spending growth picked up and aggregate business investment growth was relatively robust, but export growth disappointed. Activity in the rest of the world was mixed, with falls in euro-area output, while the US recovery continued at a moderate pace. UK domestic demand probably expanded modestly in 2013 Q1, but exports appear to have fallen further.

**Chart 2.1** Contributions to calendar-year GDP growth<sup>(a)</sup>



- (a) Chained-volume measures. Components may not sum to total due to chain-linking and the statistical discrepancy.  
 (b) Government 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.  
 (c) 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 for MTIC fraud by an amount equal to the ONS import adjustment.  
 (d) Excludes the alignment adjustment.

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

	Averages		2012			
	1998–2007	2008–11	Q1	Q2	Q3	Q4
Household consumption <sup>(b)</sup>	0.9	-0.3	0.3	0.7	0.2	0.3
Private sector investment	1.1	-1.4	-0.6	3.2	-1.8	-1.4
<i>of which, business investment</i>	1.1	-0.9	-0.2	1.6	0.2	-0.8
<i>of which, private sector dwellings investment</i>	1.6	-2.0	-1.5	6.7	-6.1	-2.6
<b>Private sector final domestic demand</b>	<b>0.9</b>	<b>-0.5</b>	<b>0.2</b>	<b>1.1</b>	<b>-0.1</b>	<b>0.0</b>
Government consumption and investment <sup>(c)</sup>	0.8	0.1	3.3	-2.2	1.0	1.1
<b>Domestic demand</b>	<b>0.9</b>	<b>-0.4</b>	<b>0.7</b>	<b>0.5</b>	<b>0.5</b>	<b>-0.1</b>
'Economic' exports <sup>(d)</sup>	1.1	0.3	-1.5	-1.0	1.8	-1.6
'Economic' imports <sup>(d)</sup>	1.4	-0.3	0.6	1.4	0.3	-1.0
<b>Net trade<sup>(d)(e)</sup></b>	<b>-0.1</b>	<b>0.2</b>	<b>-0.7</b>	<b>-0.8</b>	<b>0.4</b>	<b>-0.2</b>
<b>Real GDP at market prices</b>	<b>0.8</b>	<b>-0.2</b>	<b>-0.1</b>	<b>-0.4</b>	<b>0.9</b>	<b>-0.3</b>
Memo: nominal GDP at market prices	1.3	0.4	-0.3	0.1	2.0	-0.3

- (a) Chained-volume measures.  
 (b) Includes non-profit institutions serving households.  
 (c) Government investment is defined as in footnote (b) of Chart 2.1.  
 (d) Net trade is defined as in footnote (c) of Chart 2.1.  
 (e) Percentage point contributions to quarterly growth of real GDP.

GDP grew by just 0.3% in 2012, with a modest pickup in private domestic demand largely offset by a drag from net trade (Chart 2.1). Domestic demand growth has remained below its pre-recession average rate, as the economy continues to adjust to the repercussions of the financial crisis (Section 2.1). Muted world trade growth as well as UK-specific factors weighed on export growth in 2012 (Section 2.2).

The weakness in UK output growth has been associated with subdued nominal spending growth (Table 2.A). Four-quarter nominal GDP growth fell to 1.5% in 2012 Q4, compared with a pre-recession average of around 5%.

## 2.1 Domestic demand

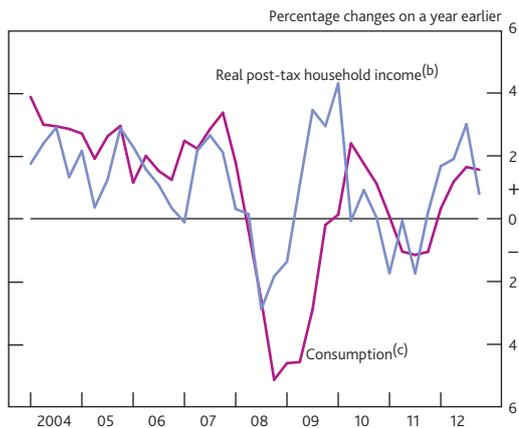
### Household spending

Consumer spending expanded gradually over 2012 (Table 2.A), following falls in 2011. A key reason for that turnaround was the modest improvement in household real income growth in 2012 (Chart 2.2), reflecting stronger employment growth (Section 3) and an easing in inflation. That said, in 2012, quarterly household spending and income growth were both less than half the averages seen in the pre-recession decade.

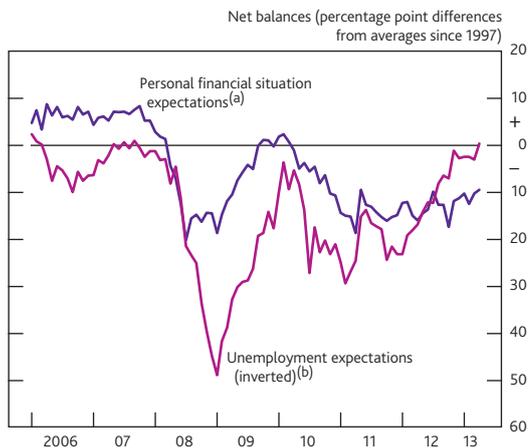
Indicators suggest that the gradual expansion in consumer spending continued in 2013 Q1: retail sales rose a little after falling in Q4, and private car registrations increased modestly.

The near-term outlook for consumer spending will depend largely on prospects for income, which is likely to grow less quickly in 2013 H1 than in 2012, reflecting a slowing in wage growth (Section 4). But it will also depend on whether households are continuing to adjust to the adverse shocks that have encouraged higher saving over the past five years.

The aftermath of the financial crisis is likely to have affected household saving behaviour in a number of ways. For example, some households will have become more pessimistic about future income prospects — one reason why households

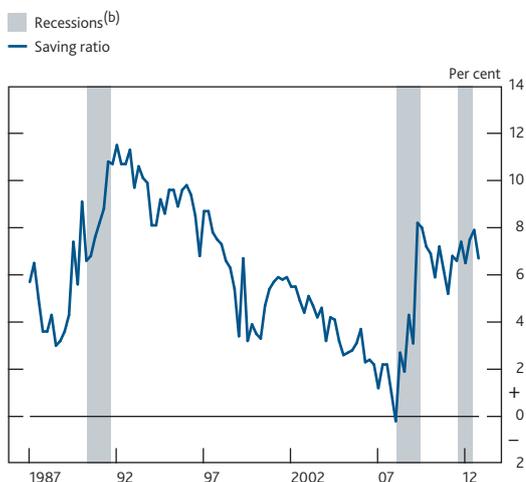
**Chart 2.2 Household consumption and real income<sup>(a)</sup>**

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

**Chart 2.3 Households' financial situation and unemployment 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 number of people unemployed to change over the next twelve months.

**Chart 2.4 Household saving ratio<sup>(a)</sup>**

- (a) Percentage of household post-tax income.  
 (b) 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.

have reported that the outlook for their personal finances is worse than before the crisis (**Chart 2.3**). Lower income expectations may have prompted households to save more to smooth their spending over time. Some households may also have wanted to increase their savings in response to heightened uncertainty about future employment and earnings. The fiscal consolidation has probably added to the sense of uncertainty, in particular for public sector employees. Following the crisis, survey measures indicated that households expected substantial rises in unemployment (**Chart 2.3**), suggesting that they became more uncertain about their own job prospects. That said, households currently report that they expect little change in unemployment over the coming year. Moreover, as the box on pages 22–23 explains, the impact of the financial crisis on saving is likely to have been amplified for those households with high levels of debt relative to their income.

Unusually loose monetary policy has only partially offset the impact of the financial crisis on household saving: the saving ratio rose sharply in 2008–09, and in 2012 Q4 remained a little above its average since 1987 (**Chart 2.4**).

The longer-term prospects for consumer spending depend on the degree to which the consequences of the financial crisis are still working their way through the economy (Section 5).

### Dwellings investment

Private sector dwellings investment — which includes new building, improvements and the costs associated with buying a property — fell by more than 5% in 2012, reducing GDP growth by 0.2 percentage points. Even before that decline, dwellings investment was substantially below its pre-crisis peak, reflecting very low housing market activity. Dwellings investment is likely to rise a little over 2013, as easing credit conditions, in part reflecting the impact of the Funding for Lending Scheme (Section 1), support transactions.

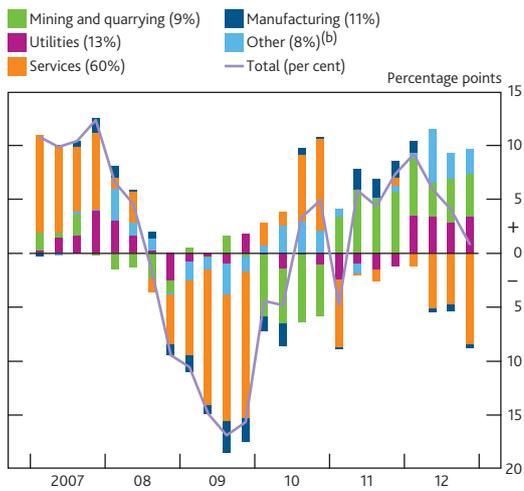
There is likely to be a further boost to dwellings investment from the Help to Buy equity loan scheme. Between 2011 Q3 and 2012 Q2, almost 150,000 houses were built. The Government plans to support up to 74,000 purchases of newly built homes over the next three years, although it is unclear how many of those purchases would have happened without the scheme.

### Business spending

Aggregate business investment growth was relatively robust in 2012. But that reflected continuing strong investment by utilities and extraction companies, which offset falls in service sector capital spending (**Chart 2.5**).

Investment by energy sector companies has driven increases in overall business investment over the past two years, despite accounting for less than a quarter of total capital spending.

**Chart 2.5** Contributions to four-quarter growth in business investment by sector<sup>(a)</sup>



(a) Chained-volume measures. The figures in parentheses show 2009 weights in real business investment. Weights do not sum to 100 due to rounding.

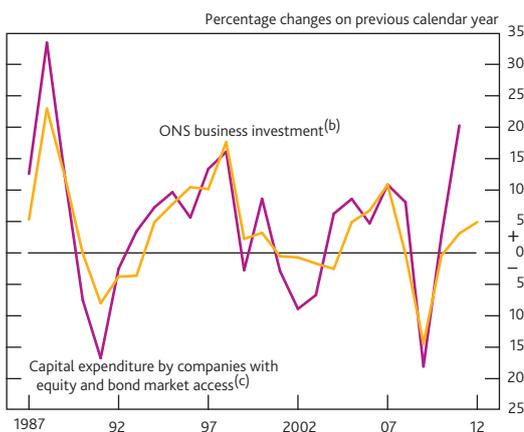
(b) Other includes agriculture, construction and public corporations.

This strength reflects a number of influences. For example, according to contacts of the Bank's Agents, oil and gas companies are investing in new and existing fields in response to new technology, the sustained high oil price and changes to the tax regime. Information from the Department of Energy and Climate Change and utility regulators points to smaller rises in total energy sector investment in 2013.

More generally, past and future weakness in output may have weighed on some companies' desire to invest. Although service sector companies have experienced steady output growth in recent years (Section 3), growth has been below average and they probably have ample spare capacity. But it is difficult to reconcile output trends with the sharp adjustment to service sector investment in 2012. For example, there is little evidence that companies became more pessimistic or more uncertain about future demand for their products. Surveys of business confidence and output expectations improved in 2012 relative to 2011, and rose further in 2013 Q1; and demand uncertainty, as reported by the Confederation of British Industry, averaged about the same in 2012 as in 2011.

As well as the desire to invest, spending depends on companies' financial resources. Many companies use retained earnings to finance investment. But others fund investment from external sources. For those with capital market access, the cost of raising finance is low by historical standards (Section 1). And according to the accounts of publicly listed companies, those with access to equity and bond markets — which have on average accounted for around half of UK business investment — increased their capital expenditure sharply in 2010 and 2011 (Chart 2.6).<sup>(1)</sup> Those companies were disproportionately concentrated in the energy sector, but service sector companies with equity and bond market access also invested more than those without. Net bond and equity issuance was strong in 2012 and 2013 Q1 (Section 1), which may support further investment.

**Chart 2.6** Capital expenditure by companies with equity and bond market access<sup>(a)</sup>



Sources: Dealogic, ONS, Thomson Reuters Datastream and Bank calculations.

(a) The current vintage of ONS business investment data is not available prior to 1997 Q1. Nominal and real business investment prior to that date have been assumed to grow in line with the series in the 2011 Q1 National Accounts data set.

(b) Chained-volume measure.

(c) Median growth in capital expenditure from publicly listed company accounts, deflated using the ONS business investment deflator. The data set includes companies that have equity and bond market access, plus those with equity market access only, but not those that have bond market access only.

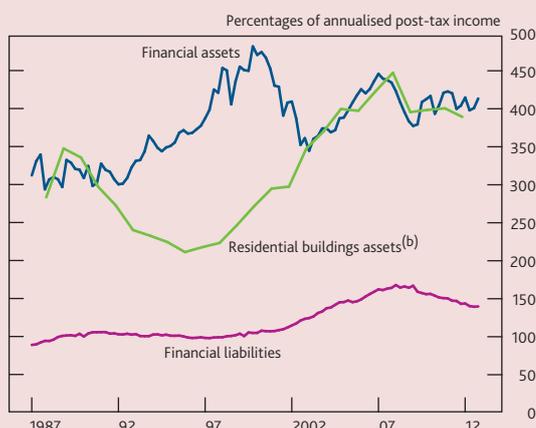
Companies reliant on bank funding are likely to have been more constrained. Comparing investment recorded in publicly listed companies' accounts with the National Accounts investment data suggests that investment by companies without capital market access fell in both 2010 and 2011 (Chart 2.6). And an Agents' survey conducted in February and March found that those companies reporting a higher cost or lower availability of bank credit in 2012 were more likely than others to have cut their investment. Investment by those companies that are currently prevented from investing as much as they would like to could, therefore, rise if credit becomes cheaper and easier to access. But some companies may not have been able to access bank credit because lenders consider them to have poor prospects. In that case, they may

(1) Data are currently unavailable for 2012.

## The role of debt in household saving decisions

UK household sector debt was 140% of household income in 2012 Q4, below the peak of almost 170% in 2008, but still historically high (**Chart A**). Households' financial and housing assets are, however, worth more than five times the value of their debt. At face value, that could suggest that debt should not act as a constraint on spending — in principle, households could use their assets to pay off their debts. But there are at least two reasons to be less sanguine. First, some assets, such as housing or pensions, are not easily liquidated at short notice. And, second, household assets and debts are not distributed evenly. This box uses microdata, which identify households with differing characteristics, to explore the saving behaviour of households with high debts.

**Chart A Household financial assets, residential buildings assets and financial liabilities<sup>(a)</sup>**



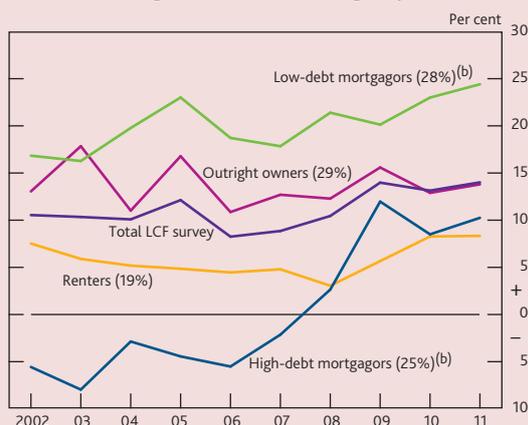
(a) Financial assets and liabilities data are non seasonally adjusted.  
(b) Annual data. The latest observation is for end-2011.

### High-debt households have cut their spending by more

Following the financial crisis of 2007/08, the proportion of income saved by households rose sharply and has stayed at that level (**Chart 2.4**). As discussed in Section 2.1, that rise is likely to reflect a number of factors, including lower expectations of future income growth, greater uncertainty about future income and tighter credit conditions. But debt could have played a role in how households responded to those factors.

Indeed, according to the Living Costs and Food (LCF) survey,<sup>(1)</sup> households with high levels of mortgage debt relative to their income have on average raised saving and cut spending by more than other households since 2007 (**Chart B**). Although these data are not directly comparable to the National Accounts measure, they imply a similar rise in overall household saving from 2007 to 2011 of roughly 5 percentage points, with just over half of that accounted for by mortgagors with high debt — those with an outstanding mortgage of more than twice their annual disposable income.

**Chart B Saving ratios of different groups of households<sup>(a)</sup>**



Sources: Living Costs and Food (LCF) survey and Bank calculations.

(a) Saving ratios calculated using the average consumption and disposable income levels for each group of households. Numbers in parentheses show their share of total income in 2007. Shares do not sum to 100 due to rounding.  
(b) High-debt mortgagors are defined as having outstanding mortgage debt of more than twice their annual disposable income. All other mortgagors are low debt.

Households (both mortgagors and non-mortgagors) with unsecured debt also increased their saving rates by more than households with no debt.

### Highly indebted households are more vulnerable to adverse shocks

Highly indebted households may have increased saving more than others because debt has amplified the impact of shocks to their income. For many households, the financial crisis lowered expected income or made it more uncertain. Highly indebted households are more vulnerable to these kinds of shocks, because their debt-servicing costs are likely to be a higher proportion of their income. In the LCF data set, the mortgage payments of highly indebted households, as a proportion of their income, are roughly double those of other households. Households with high debt may have become more concerned about their ability to service those debts, choosing to reduce consumption by more than would be implied by the shock to their income alone, in order to reduce their indebtedness or to build up a bigger buffer of savings.

Results from the NMG Consulting survey<sup>(2)</sup> for 2012 provide some supporting evidence. Around a third of the 4,000 households interviewed for the survey reported that they were concerned about their current level of debt and had cut back their spending in response. And of those households, a third had experienced a negative shock to their income that they expected to persist, and around two thirds had become more concerned that their income could fall over the next year (**Table 1**). Those who had cut spending in response to debt concerns were also more likely to have a high debt to income ratio.

Greater uncertainty about the future cost and availability of credit may also have encouraged some highly indebted

**Table 1** 2012 NMG survey: mortgagors' responses to debt concerns and reports of lower or more uncertain future income

	Reduced spending in response to debt concerns?	
	Yes	No
Average debt to income ratio	2.8	2.1
Proportion that experienced a negative shock to their income that they expected to persist <sup>(a)</sup>	31%	13%
Proportion that were more concerned that their income could fall <sup>(b)</sup>	61%	31%

Sources: NMG Consulting and Bank calculations.

(a) Questions: 'Has your household received more or less money, from both work and non-work sources, over the last twelve months than you would have expected this time last year?' and 'Are you treating this unexpected decrease in money received by your household as a decrease that is likely to persist?'.

(b) Question: 'Are you more concerned now than a year ago, that your household income will fall sharply over the next year or so?'.

households to save more. In particular, some households will have taken on their mortgage debt before the crisis in the expectation that they would be able to roll over that debt on favourable terms or increase it if the need arose. If they have become more uncertain or pessimistic about their ability to do that, then they may cut their consumption to build up a bigger buffer of savings. In the 2012 NMG survey, around 25% of all households reported that they had been put off spending by concerns that they would not be able to get further credit should they need it. And those responses were disproportionately concentrated in high-debt households.

### Highly indebted households may have saved more than others, due to factors other than debt

Some households may have particular characteristics that would tend to be associated both with taking on high debt prior to the financial crisis and wanting to increase saving by

more than others since the crisis. Belonging to a certain age group could be one such characteristic. For example, people in their 30s have the highest average debt to income, according to the LCF survey, and are likely to respond more than older households to lower or more uncertain future income, because a greater proportion of their working lives will be affected. But between 2007 and 2011, there was a material rise in saving across all working age groups. And within each age group, those with debt increased saving by more than those without.

An alternative explanation is that some households had more optimistic expectations, prior to the crisis, about their future income, leading them to take on more debt than others. They then revised their outlook the most, as a result of the crisis. This interpretation is consistent with the 2012 NMG results, since highly indebted households were more likely to report that they had experienced an adverse income shock or become more concerned about their income (Table 1).

### Conclusion

Highly indebted households have accounted for much of the rise in saving between 2007 and 2011. The underlying causes of higher saving are likely to be lower household income expectations and greater uncertainty over future income and the future cost and availability of credit. But the LCF and NMG survey evidence suggest that high levels of debt relative to income are likely to have amplified the impact of those factors on households' saving decisions.

(1) A repeated cross-section survey of 5,000 to 8,000 households per year.

(2) For more information, see Bunn, P, Johnson, R, Le Roux, J and McLeay, M (2012), 'Influences on household spending: evidence from the 2012 NMG Consulting survey', *Bank of England Quarterly Bulletin*, Vol. 52, No. 4, pages 332–42.

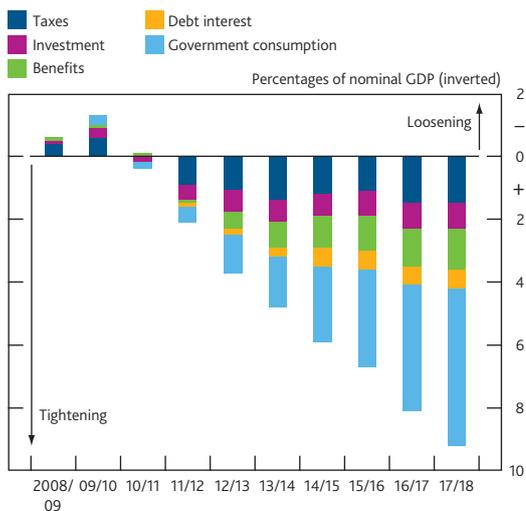
not be able to borrow to invest, even if credit constraints ease in general.

Surveys of investment intentions are consistent with a pickup in investment growth in 2013 Q1. Overall, total business investment is likely to rise modestly over 2013, supported by further increases in energy sector investment.

### Government spending

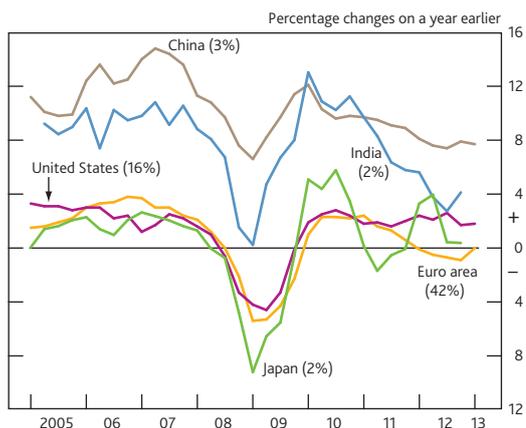
A substantial fiscal consolidation is under way. The fiscal deficit was around 8% of nominal GDP in 2012, broadly unchanged from 2011, but below the peak of 11% in 2009.<sup>(1)</sup> Based on the Government's latest fiscal plans, set out in the 2013 *Budget*, the Office for Budget Responsibility expects that the deficit will be broadly flat as a proportion of GDP until 2014/15 and then will narrow further.

(1) Measure excludes 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 2.7** Composition of the fiscal consolidation<sup>(a)</sup>

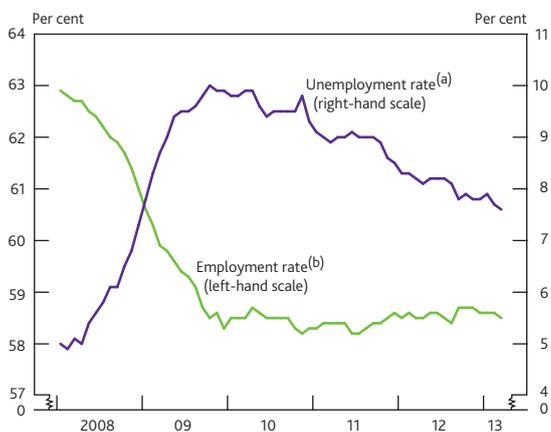
Sources: HM Treasury, Institute for Fiscal Studies and Office for Budget Responsibility.

(a) Bars represent the planned fiscal tightening (reduction in government borrowing) relative to the March 2008 Budget, 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](http://www.ifs.org.uk/publications/6683) for more detail.

**Chart 2.8** GDP in selected countries and regions<sup>(a)</sup>

Sources: Eurostat, Indian Central Statistical Organisation, Japanese Cabinet Office, National Bureau of Statistics of China, Thomson Reuters Datastream and US Bureau of Economic Analysis.

(a) Real GDP measures. Figures in parentheses are shares in UK goods and services exports in 2011 from the 2012 *Pink Book*. The earliest observation for India is 2005 Q2. The latest observations for China and the United States are 2013 Q1 and for India, Japan and the euro area are 2012 Q4.

**Chart 2.9** US employment and unemployment rates

Source: Bureau of Labor Statistics.

(a) Percentage of the 16+ civilian labour force.  
(b) Percentage of the 16+ non-institutional civilian population.

According to the Institute for Fiscal Studies, around 40% of the consolidation, relative to the March 2008 Budget, has taken place so far (Chart 2.7). The pace of the consolidation is planned to be similar in 2013/14 to that in 2012/13. Although it is difficult to know what would have happened in its absence, it is likely that the consolidation has weighed on output over the past three years and will continue to do so.

## 2.2 External demand and UK trade

Global output growth slowed in 2012, reflecting continued weakness in the euro area and, to a smaller extent, less buoyant growth in some emerging economies. Growth in the United States was relatively solid (Chart 2.8). Survey indicators have been mixed, but taken together point to a pickup in global output growth in 2013 H1.

### The euro area

Euro-area GDP fell by 0.6% in 2012 Q4, reflecting marked contractions in the periphery. But GDP also fell by 0.6% in Germany and by 0.3% in France. Those falls could in part reflect the lagged impact from heightened financial and political tensions in the first half of 2012. Financial market sentiment has improved since then, with reaction to the Cypriot bailout generally muted (Section 1). The direct impact of slower growth in Cyprus on euro-area activity is likely to be limited.

As the lagged impact of earlier financial market tensions has dissipated, there have been tentative signs of the improvement in sentiment feeding through into household and business confidence. But activity indicators point to a further contraction in output in 2013 Q1, albeit a smaller one than in 2012 Q4. And there remains considerable uncertainty about the outlook for euro-area growth.

### The United States

US activity expanded relatively solidly in 2012. Output growth picked up to 0.6% in 2013 Q1, boosted by an unwinding of the temporary impact of bad weather in 2012 Q4.

Consumer spending rose in 2013 Q1, despite the increase in payroll taxes that took effect on 1 January 2013. But if households have still to adjust fully to the tax rise, spending growth could weaken in coming quarters. The unemployment rate fell to 7.5% in April 2013, from its peak of 10% in October 2009. On the face of it, that improvement will have been supportive of household spending. But the fall in unemployment rate largely reflects a decline in the proportion of people who are actively seeking work, rather than a rise in the proportion who are employed (Chart 2.9).

The relatively solid US recovery is likely to continue over the rest of 2013. But fiscal measures, including budget cuts to a range of Federal programmes, will continue to drag on growth: the Congressional Budget Office estimates that these budget

cuts are likely to reduce GDP growth by around 0.6 percentage points in 2013.

### Rest of the world

Japanese output was flat in Q4. But survey indicators point to a pickup in growth in Q1. In April 2013, the Japanese authorities announced aggressive monetary easing, as part of a wider reform package (see the box on page 10), in response to years of relatively low growth and repeated periods of deflation.

Chinese activity rose by 1.6% in 2013 Q1, below market expectations. But the data are likely to be distorted by the timing of the Chinese New Year. Looking through that effect, growth in China slowed in 2010 and 2011, but has been broadly stable since 2012 Q1 (**Chart 2.8**). More generally, as China rebalances demand away from investment and exports towards consumption, growth is likely to be lower than before the crisis.

Growth in emerging economies more generally appears to have troughed in 2012, following a slowing earlier in the decade. In its April 2013 *World Economic Outlook*, the IMF projected that growth will pick up a little in 2013.

### Trade

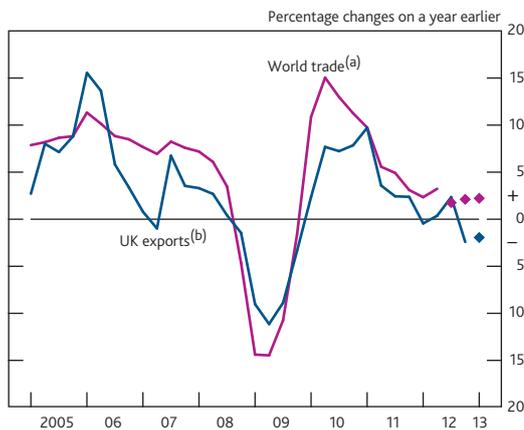
UK exports depend on both world trade and the share of that trade captured by UK companies. World trade growth was weak in 2012 (**Chart 2.10**), but indicators, such as the JPMorgan index of global manufacturing export orders, suggest that it picked up in 2013 Q1.

UK exports disappointed in 2012, even allowing for the weakness in world trade. The United Kingdom's share of world trade declined as UK exports fell almost 2.5% in the year to 2012 Q4. And based on trade in goods data, the UK share declined further in 2013 Q1 (**Chart 2.10**). Poor UK export performance has been largely accounted for by weakness in services exports, in particular in financial services.<sup>(1)</sup>

Import growth in 2012 was also weak, in part reflecting subdued domestic demand (**Table 2.A**). But that weakness was not sufficient to offset falling exports: net trade subtracted around 1 percentage point from UK growth in 2012. Imports of goods data point to a further fall in imports in 2013 Q1.

The current account deficit widened in 2012 (**Chart 2.11**) and, taking the year as a whole, the deficit was the largest since 1989. The increase over 2012 reflected both a widening in the trade deficit and a fall in net investment income. Since the UK trade deficit was broadly unchanged in 2013 Q1, the current account is unlikely to have narrowed materially unless net investment income has picked up.

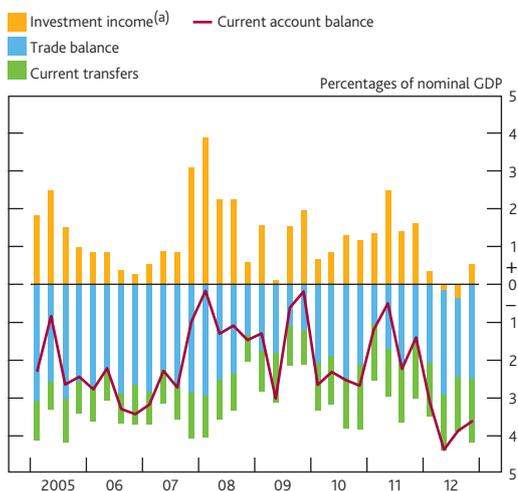
**Chart 2.10** World trade and UK exports



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 2012 Q2. Diamonds are based on trade in goods data constructed by CPB Netherlands. The latest diamond shows the average for January and February compared to 2012 Q1.
- (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 for MTIC fraud by an amount equal to the ONS's imports adjustment. Diamond shows average headline goods exports in 2013 Q1 compared to 2012 Q1.

**Chart 2.11** UK current account



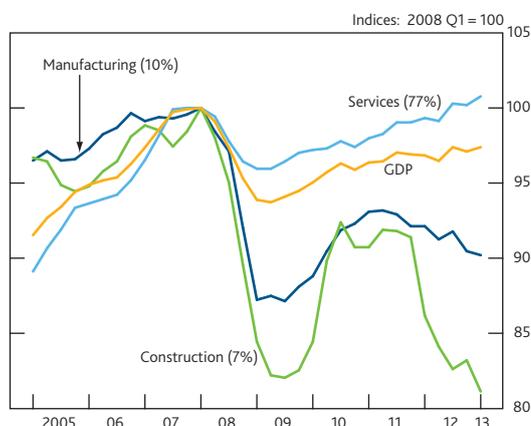
(a) Includes compensation of employees.

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

# 3 Output and supply

GDP is estimated to have grown by 0.3% in Q1 and indicators point to further moderate growth in Q2. More generally, growth in output over the past two years has been weak. But the recovery in employment has been relatively strong, implying weak productivity. Labour market participation has also held up. A margin of slack remains in the economy.

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



(a) Chained-volume measures. GDP is at market prices. Indices of sectoral output are at basic prices. The figures in parentheses show 2009 weights in gross value added.

**Table 3.A** Survey indicators of manufacturing and services output growth

	Averages				2013	
	1999–2007	2008–09	2010–11	2012	Q1	Q2 <sup>(a)</sup>
BCC <sup>(b)</sup>	22	-10	7	8	12	n.a.
CBI <sup>(c)</sup>	12	-23	3	-2	1	n.a.
Markit/CIPS <sup>(d)</sup>	55	49	54	52	52	52
Quarterly GDP growth <sup>(e)</sup>	0.8	-0.7	0.3	0.0	0.3	0.5 <sup>(f)</sup> (0.2–0.8)

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

- (a) Markit/CIPS data are for April.  
 (b) Net percentage balances of respondents reporting an increase in domestic sales in the non-services and services sectors, weighted together using nominal shares in value added. Data are non seasonally adjusted.  
 (c) Net percentage balances of respondents reporting an increase in the volume of output in the manufacturing sector, in the volume of business in the financial services and business/consumer services sectors, and in the volume of sales in the distributive trades sector, weighted together using nominal shares in value added.  
 (d) Indices of changes in output (manufacturing) and business activity (services), weighted together using nominal shares in value added.  
 (e) Chained-volume measure at market prices.  
 (f) The figure for Q2 shows Bank staff's central projection for the preliminary estimate of GDP growth. The range shown in parentheses is based on staff estimates of the root mean squared errors of forecasts for quarterly GDP growth made since 2004. As the staff projection is for the preliminary estimate of GDP, it can differ from that used to construct the GDP fan in **Chart 5.1**, because the latter is based on the MPC's best collective judgement of the final estimate of GDP.

## 3.1 Output

Since the trough in output in mid-2009, GDP growth has averaged just 0.3% per quarter, and is provisionally estimated to have been 0.3% in 2013 Q1 (**Chart 3.1**). Growth in Q1 was more than accounted for by the service sector; manufacturing and construction sector output fell. In addition, the level of GDP in 2012 Q4 has been revised up by 0.4% since the February Report.

More generally, over the past two years the service sector has expanded at a modest pace. But falls in construction and manufacturing output have weighed on activity. In particular, despite accounting for only around 7% of total output, the fall in construction output over the past two years has reduced the level of GDP by 0.7%.<sup>(1)</sup> But new construction orders, which tend to be subsequently reflected in higher activity, picked up modestly during 2012 H2.

Survey indicators of current (**Table 3.A**) and expected output point to a further modest expansion in Q2. The staff projection for the preliminary estimate of 2013 Q2 GDP growth is 0.5%, although outturns between 0.2% and 0.8% would be consistent with past errors.<sup>(2)</sup>

## 3.2 The labour market

### Labour supply and employment

Labour market participation — the number of people in work or actively seeking employment — has held up well since the 2008/09 recession. That contrasts with previous recessions, when the participation rate fell sharply (**Chart A** in the box on page 27). As discussed in the box, participation has been supported by a range of factors recently — including delayed retirement and changes in the benefits regime. Participation remained robust in the three months to February.

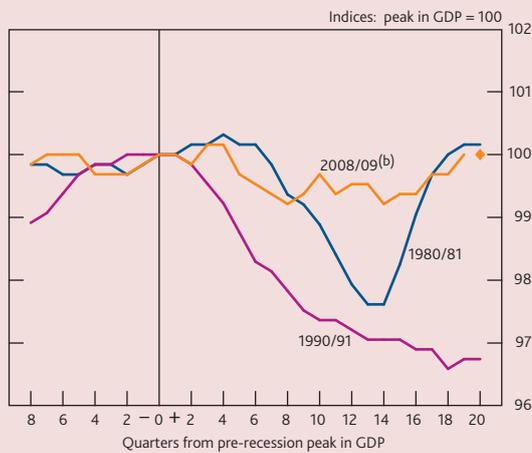
(1) For more details on trends in construction sector output see the box on page 27 of the August 2012 Report.

(2) The range is based on staff estimates of the root mean squared errors of forecasts for quarterly GDP growth made since 2004.

## The participation rate and labour supply

The participation rate is the proportion of the adult population who are working or actively looking for a job. This proportion will vary over time, reflecting both structural trends — for example, the female participation rate has been trending upwards over the past few decades — and cyclical ones. Typically during recessions, people tend to leave the workforce: they become discouraged from looking for jobs by higher unemployment and reduced chances of finding work. But during this recession the participation rate has been broadly flat (**Chart A**). This box considers why that might have been.

**Chart A** Participation rate compared with previous recessions<sup>(a)</sup>



Source: ONS (including the Labour Force Survey).

- (a) Percentage of the 16+ population. Three-month rolling measure. Recessions are defined as in **Chart 3.2**.  
 (b) The diamond shows an estimate for 2013 Q1 based on data for the three months to February.

### Older people are working longer

An important factor shaping the participation rate is the behaviour of the 'baby-boomers' — those born in the 20 years after the Second World War — who constitute a particularly large age cohort. Participation rates vary over people's lifetime, so as the composition of the population shifts between different age groups, that affects the overall participation rate. The baby-boomers have propped up the participation rate throughout their working life. But as they reach retirement age that support will decline.

The support from that cohort effect should be starting to wane now, but there are other factors acting against it. People are living longer and that, alongside the abolition, in 2011, of companies' right to enforce an employee retirement age, means that more people are now working beyond 65 (**Chart B**). Moreover, from 2010 the state pension age for women started to increase, pushing up the participation rate of older women. In addition, the financial crisis may have led some pensioners to seek work because of the fall in their

savings income. Similarly, some of those nearing retirement age may now plan to work longer so as to bolster their prospective pension. Indeed, as well as the rise in the participation rate of over 65s, the proportion of those under 65 retiring early has fallen back markedly (**Chart B**).

**Chart B** Selected participation and retirement rates by age



Source: ONS (including the Labour Force Survey).

- (a) Those aged 16–64 who are retired as a percentage of the 16–64 population.  
 (b) Those aged 65+ who are economically active as a percentage of the 65+ population.

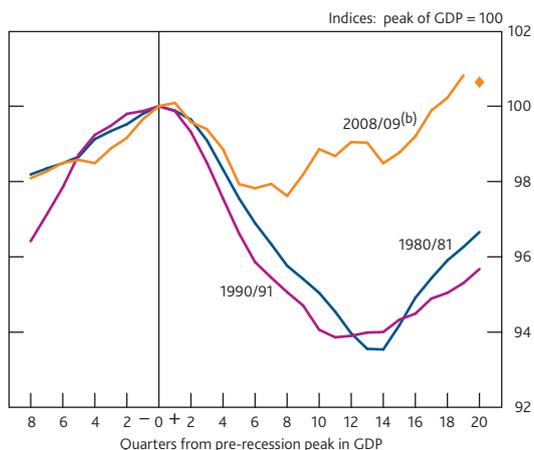
### Other factors increasing incentives to work

The financial crisis is also likely to have reduced households' expected future labour income. Together with the squeeze in household income in recent years (Section 2), that could have encouraged more people to seek work. For example, it may have led more household members to want a job.

The benefit regime also influences incentives to participate in the labour market. Since the 1990s, a range of benefits have been reformed, including those for unemployment, sickness and disability. These changes may mean that fewer people are leaving the labour market relative to previous recessions. For example, in the early 1990s there was a large rise in inactivity associated with long-term sickness. But since October 2008, when the main long-term sickness absence benefit began to be replaced by the Employment and Support Allowance, the number of inactive people classified as sick has fallen. Some of these people may have moved into the labour force, raising the participation rate.

Finally, the resilience of employment (Section 3.2) may have interacted with these factors and encouraged some people, who otherwise would have left the labour market or remained outside it, to seek work instead. The longer people have been unemployed, the more discouraged they tend to become. But the long-term unemployment rate (**Table 3.B**) remains low relative to the 1990s, suggesting that the discouragement factor is smaller now than in the past.

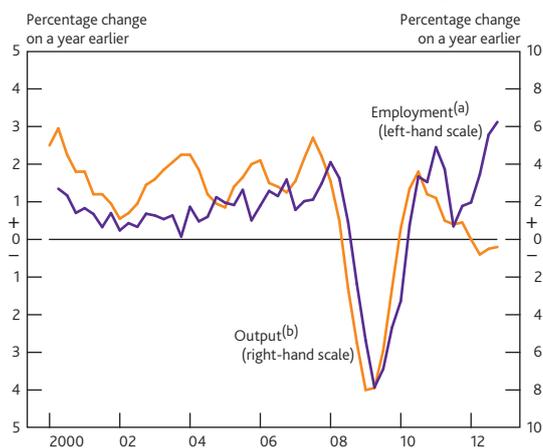
**Chart 3.2** Level of whole-economy employment compared with previous recessions<sup>(a)</sup>



Source: ONS (including the Labour Force Survey).

- (a) Recessions are defined as at least two consecutive quarters of falling output (at constant market prices) estimated using the latest data.
- (b) The diamond shows an estimate for 2013 Q1 based on data for the three months to February.

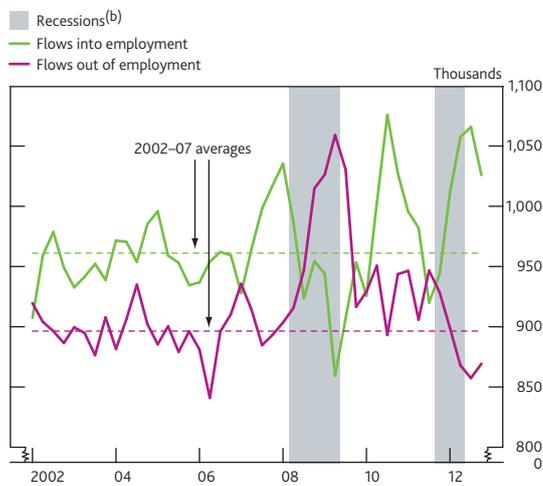
**Chart 3.3** Private sector output and employment



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 3.4** Flows into and out of employment<sup>(a)</sup>



Source: ONS (including the Labour Force Survey).

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

The recovery has also been associated with unusually robust employment growth (**Chart 3.2**) — indeed, total hours worked have risen by a little more than heads. As in previous quarters, solid growth in private sector employment (**Chart 3.3**) more than offset a further fall in public sector employment in 2012 Q4, so that overall employment continued to rise. That rise was driven by full-time working.

Private sector employment growth is likely to be a little slower in 2013 H1, pointing to some reduction in the unusual divergence between output and employment growth. Whole-economy employment was broadly flat in the three months to February. And surveys of employment intentions point to subdued growth in 2013 H1, although those surveys underestimated employment growth in 2012.

**Productivity**

During the recovery, the resilience of private sector employment growth has contrasted with the weakness in private sector output growth (**Chart 3.3**). The corollary has been unusually weak labour productivity growth. On current estimates, private sector output per hour is around 15% lower than it would have been had it continued to grow at its pre-recession average rate.

The weakness of productivity in recent years reflects several factors, which were set out in Section 3 of the November 2012 *Report*. Some of these factors suggest that the weakness in productivity is likely to be temporary and related to the weakness in demand itself, for example if companies have to devote more effort to generating business in the face of weak demand. But other factors — linked, say, to the impairment of the banking sector — point to a more durable reduction in productivity. The relative importance of these various factors will determine how fast the economy can grow without generating inflationary pressure. For example, if weak productivity largely reflects weak demand conditions, a recovery in demand is likely to be associated with a recovery in productivity, and hence little inflationary pressure. But if underlying productivity is weak then inflationary pressure could rise as demand recovers.

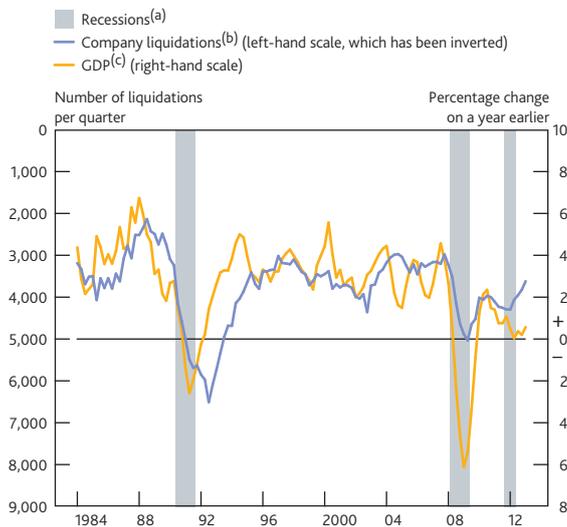
The next subsection focuses on some factors behind the strength in employment, and what they might mean for productivity, in more detail. And Section 3.3 considers some constraints on companies' physical capacity.

**Companies' employment decisions**

The strength in employment in part reflects strong job creation. That is reflected in flows into employment since 2010, which have generally been well above past averages (**Chart 3.4**).

But unusually weak job destruction also seems to have supported employment. Although employment outflows have

**Chart 3.5** Company liquidations in England and Wales and GDP



Sources: The Insolvency Service and ONS.

- (a) Recessions are defined as in **Chart 3.4**.  
 (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.  
 (c) Chained-volume measure at market prices.

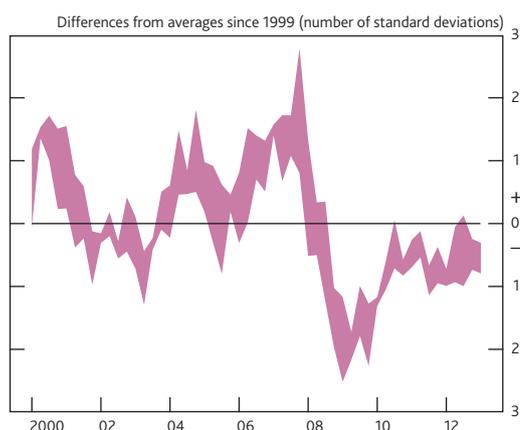
until recently remained above past averages (**Chart 3.4**), they rose by much less in this recession than in the 1980s and 1990s recessions. The implications for productivity depend on why job losses have been limited. Two key influences have been at work: relatively few companies have gone out of business; and some companies experiencing particularly weak demand have been willing and able to hold on to staff.

Typically, recessions are associated with more companies going out of business, and a related rise in redundancies. But since 2008, the number of company liquidations has remained low relative to the fall in GDP (**Chart 3.5**). The low level of Bank Rate, coupled with forbearance by banks, HMRC and other creditors have all supported companies. Such support may have allowed some viable businesses to remain in operation, and thus maintain employment levels, through a temporary, albeit prolonged, period of weak demand. But other, less viable businesses, may find it hard to make a profit even when demand recovers. In that case, forbearance may ultimately act as an impediment to the efficient allocation of capital and labour, reducing underlying productivity growth.

As well as redundancies when businesses fail, job losses typically occur in companies with shrinking or flat output. But staff analysis of microdata from the Annual Business Survey and the Business Register and Employment Survey shows that the proportion of businesses with shrinking output but flat employment rose from around 10% in 2005–07 to around 20% in 2011. Analysis based on the English Business Survey showed a similar picture for 2012.

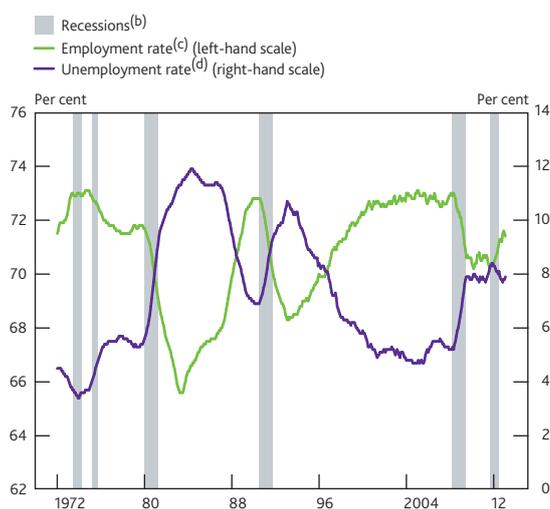
Businesses may be able to keep staff on due to support from the low level of Bank Rate and forbearance. And, at the same time, a number of other factors may have encouraged companies to hold on to staff even as demand for their products has fallen. Some companies have probably held on to staff with company-specific skills, as past experience suggests that such staff can be difficult or costly to replace when demand recovers. Other companies may be unable to cut employment below a minimum needed to keep the business in operation. And the Bank's Agents note that some companies have retained staff to help generate new business — winning and delivering work can become more resource-intensive when demand is persistently weak. This desire to hold on to staff has probably been aided by the willingness of employees to accept pay restraint — that is consistent with the relative resilience of labour market participation in this recession (see the box on page 27).

Some of those companies currently holding on to staff are likely to experience a relatively robust recovery in demand for their products, with an associated rapid pickup in productivity. But other companies may face weaker demand in the longer term, in which case their productivity may not pick up as the economy recovers.

**Chart 3.6** Survey indicators of capacity utilisation<sup>(a)</sup>

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.

**Chart 3.7** Employment and unemployment rates<sup>(a)</sup>

Source: ONS (including the Labour Force Survey).

(a) Rolling three-month measures.  
 (b) Recessions are defined as in Chart 3.4.  
 (c) Percentage of the 16–64 population.  
 (d) Percentage of the economically active population.

**Table 3.B** Selected indicators of labour market slack

	Averages				2013 Q1
	1998–2007 <sup>(a)</sup>	2010	2011	2012	
LFS unemployment rate <sup>(b)</sup>	5.3	7.9	8.1	8.0	7.9
Long-term unemployment rate <sup>(b)(c)</sup>	1.3	2.5	2.7	2.8	2.8
Claimant count unemployment rate	3.2	4.6	4.7	4.8	4.6
Weighted non-employment rate <sup>(b)(d)</sup>	7.6	9.4	9.5	9.3	9.3
Vacancies/unemployed ratio <sup>(b)(e)</sup>	0.41	0.19	0.18	0.19	0.19
Part-time workers who could not find full-time work <sup>(b)(f)</sup>	2.2	3.8	4.3	4.8	4.8

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

(a) Unless otherwise stated.  
 (b) The figure for 2013 Q1 shows data for the three months to February.  
 (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 vacancies (excluding agriculture, forestry and fishing) divided by LFS unemployment. Average is since 2001 Q2.  
 (f) 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.

### 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 3.6). That narrowing is despite the continued weakness of output, and suggests some constraints on companies' ability to supply.

These constraints on companies' supply capacity could be short-lived. For example, those companies diverting resources towards generating new business (Section 3.2) are likely to report little spare capacity despite being able to meet an increase in demand from their existing resources. In that case, a pickup in demand need not result in greater pressure on capacity, and so in inflationary pressure.

The financial crisis, however, and in particular tight credit conditions, may have left companies facing longer-lasting constraints on their ability to supply, which may persist even as demand recovers. That could in part be through impediments to the efficient allocation of resources (Section 3.2). Moreover, since the start of the financial crisis, subdued business investment has been associated with slow growth in the capital stock and hence companies' supply capacity. Relatedly, there has also probably been a reduction in the pace of both innovation itself and companies' adoption of more innovative technologies. In addition, some supply capacity will have been lost when companies went out of business, even if that channel has been relatively muted so far (Chart 3.5).

#### Labour market slack

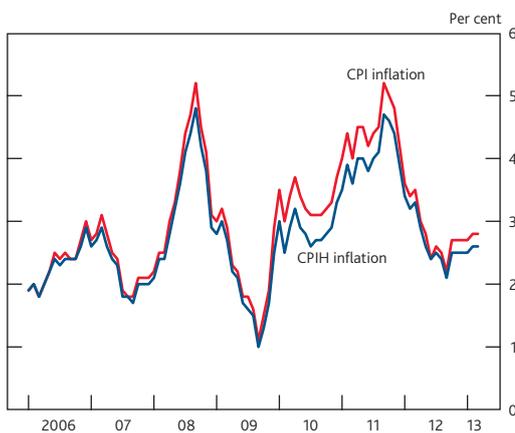
Despite a rise in the employment rate since 2012 H2, the unemployment rate — an indicator of labour market slack — has remained elevated (Chart 3.7). That is in part because some of those who were previously classed as inactive have begun to seek work (see the box on page 27). And weighted non-employment, which also takes into account those still classed as inactive, but who could easily move into a job, suggests that the margin of slack remains wide relative to pre-crisis levels (Table 3.B). Moreover, some degree of slack may also persist among those that are employed. For example, 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.

Survey indicators of companies' recruitment difficulties have risen, and are closer to, but still below, historical averages. The Agents' contacts, however, suggest that difficulties in recruiting suitable staff for available roles are limited to only a few niche sectors, and are rarely a significant constraint on capacity.

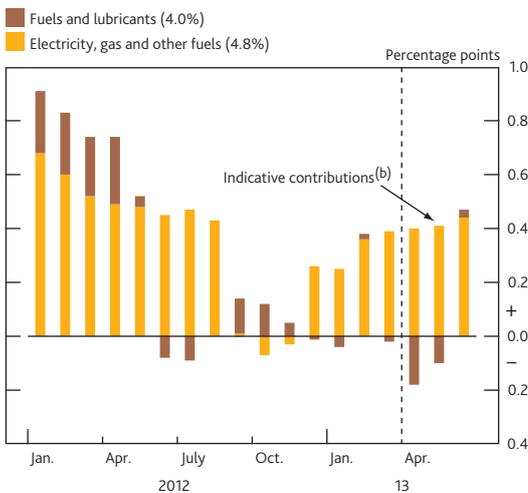
# 4 Costs and prices

CPI inflation rose to 2.8% in March from 2.7% in December. Inflation is likely to rise further in the near term to around 3%. Earnings growth slowed at the end of 2012 and fell further in the three months to February. Growth in unit labour costs weakened a little in Q4. Profit margins still appeared compressed. There are tentative signs that inflation expectations derived from financial markets have become more responsive to economic developments over the past year, but indicators of households' and professional forecasters' inflation expectations remained consistent with the target.

**Chart 4.1** Annual CPI and CPIH inflation



**Chart 4.2** Direct contribution of energy prices to CPI inflation<sup>(a)</sup>



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

(a) Contributions to annual CPI inflation. Data are non seasonally adjusted. The figures in parentheses show 2013 weights in the CPI basket.

(b) Bank staff estimates. Electricity, gas and other fuels estimates are based on recent developments in the sterling gas futures curve shown in **Chart 4.4** and estimates of suppliers' other costs published by Ofgem. Fuels and lubricants estimates use Department of Energy and Climate Change petrol price data for April 2013 and are based on the May 2013 sterling oil futures curve shown in **Chart 4.4** thereafter.

CPI inflation edged up during 2013 Q1, as anticipated at the time of the *February Report*. The near-term outlook for inflation is little changed from that expected three months ago, with inflation likely to rise further (Section 4.1). The path of inflation will be influenced by movements in commodity and import prices (Section 4.2), labour costs (Section 4.3) and inflation expectations (Section 4.4).

## 4.1 Consumer prices

CPI inflation rose to 2.8% in March from 2.7% in December (**Chart 4.1**). That was more than accounted for by airfares, and by an increase in the contribution from domestic energy bills (**Chart 4.2**), as the last of the price rises announced by the major suppliers during 2012 H2 came into effect.

CPIH inflation also rose during Q1, to reach 2.6% in March (**Chart 4.1**). CPIH is a new index of consumer prices that also includes a measure of owner-occupiers' housing costs — the costs of owning and maintaining a property.<sup>(1)</sup> Since 2006, CPIH inflation has, on average, been 0.2 percentage points lower than CPI inflation.

Inflation is likely to rise to around 3% in the middle of the year: **Chart 4.3**, which is consistent with the central projection in **Chart 5.3**, shows Bank staff projections for CPI inflation in April, May and June. The projected pickup partly reflects reductions in energy prices in 2012 Q2 dropping out of the twelve-month comparison (**Chart 4.2**). But above-target inflation reflects other factors too, including rises in administered and regulated prices. These prices are affected by government or regulatory decisions, and so tend to be less sensitive to the balance of domestic demand and supply than

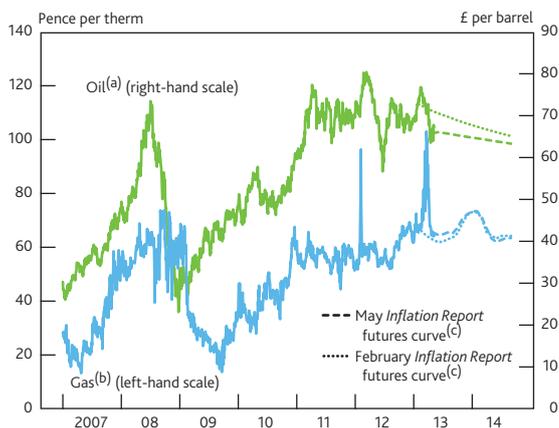
(1) For more information on this new measure, see [www.ons.gov.uk/ons/guide-method/user-guidance/prices/cpi-and-rpi/introducing-the-new-cpih-measure-of-consumer-price-inflation.pdf](http://www.ons.gov.uk/ons/guide-method/user-guidance/prices/cpi-and-rpi/introducing-the-new-cpih-measure-of-consumer-price-inflation.pdf).

**Chart 4.3** Bank staff projection for near-term CPI inflation<sup>(a)</sup>



(a) The diamonds show Bank staff's central projection for CPI inflation in April, May and June. 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.

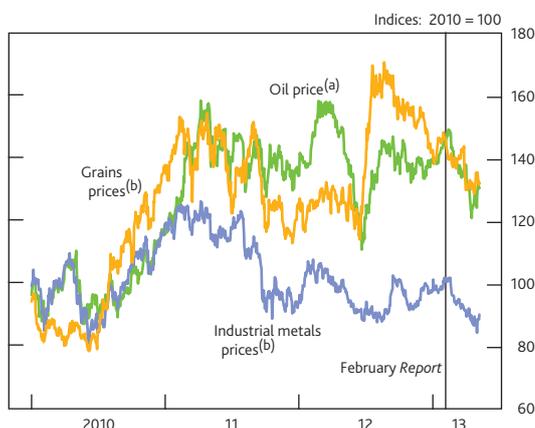
**Chart 4.4** Sterling oil and wholesale gas prices



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

(a) Brent forward prices for delivery in 10–21 days' time converted into sterling.  
 (b) One-day forward price of UK natural gas.  
 (c) The futures prices shown are averages during the fifteen working days to 6 February 2013 (dotted lines) and 8 May 2013 (dashed lines). The sterling oil futures curve is calculated by assuming that the sterling-dollar exchange rate remains at its average level during those respective fifteen-day periods.

**Chart 4.5** US dollar oil and commodity prices



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

(a) Brent forward prices for delivery in 10–21 days' time.  
 (b) Calculated using S&P US dollar commodity price indices.

prices more generally.<sup>(1)</sup> Their contribution to inflation stood at around 1 percentage point in March and is likely to persist at a similar level for the next couple of years or so, mainly accounted for by tuition fees and domestic energy prices.

The near-term outlook for CPI inflation is similar to that expected three months ago. Recent falls in oil prices (Section 4.2) mean that the contribution of petrol is likely to be a little lower than previously anticipated. And there was slight downside news from the March *Budget*: alcohol duties were reduced and the rise in road fuel duty planned for September was cancelled. But small upside news in a range of other components largely offset those changes. The medium-term outlook for inflation is discussed in Section 5.

## 4.2 Commodity and import prices

The prices both of commodities, such as oil and agricultural produce, and of imports of goods and services have had a substantial impact on CPI inflation in recent years. They will continue to have an important bearing on its future path. These external price pressures can affect CPI inflation both directly, for example through fuel prices, and indirectly, for example through their impact on companies' costs.

### Energy prices

Sterling Brent oil spot prices were around 10% lower in the run-up to the *May Report* than at the time of the *February Report*. The profile of the futures curve was also lower, if a little flatter (Chart 4.4). In part, those movements reflected increases in the supply of oil due to higher North Sea production, as fields previously closed for maintenance came back on stream. In addition, market participants' views about the outlook for global commodity demand have probably become a little less favourable — for example, the initial estimate of Chinese growth in Q1 was below market expectations. That is likely to have contributed to the falls in oil prices, and to have weighed on industrial metals prices, which have fallen by around 10% over the past three months (Chart 4.5).

Contacts suggest that the risks around oil prices are broadly balanced at present. Downside risks stemming from both the global growth outlook and the prospect of higher supply from non-conventional sources, such as US tight oil, were viewed to be broadly offset by continued concern that political tensions in the Middle East and actions by OPEC could reduce supply.

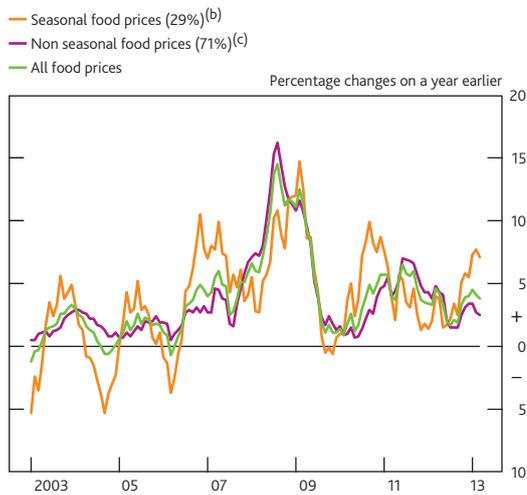
Gas spot prices have been volatile. They rose markedly during March (Chart 4.4). That was in part due to temporary reductions in supply — for example, technical faults disrupted imports through one of the main UK pipelines — and in part

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

due to increased demand for gas during a protracted period of unusually cold weather. But prices subsequently fell back, so that in the run-up to the *May Report* they were around 3% lower than at the time of the *February Report*. The profile of the gas futures curve is similar to three months ago. The spike in prices should, therefore, have few implications for household energy bills. But there is a risk that wholesale prices could rise sharply again, since gas inventories are low and supplies remain vulnerable to further disruptions to imports.

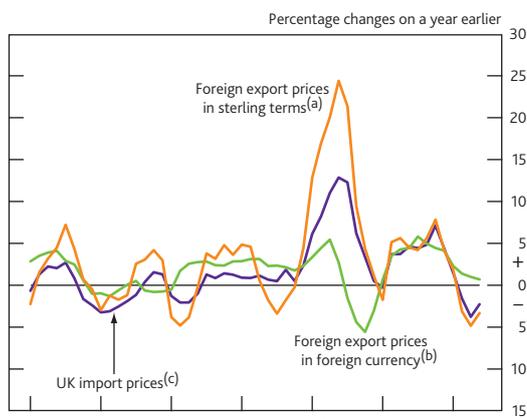
Domestic energy prices are influenced not only by wholesale gas prices but also by suppliers' non-energy costs, such as the amount that they have to contribute to the maintenance of distribution networks. Even absent increases in wholesale energy prices, the MPC's projections assume that increases in 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 February projections.

**Chart 4.6 UK consumer food prices<sup>(a)</sup>**



(a) Figures in parentheses are 2013 weights in the CPI food basket.  
 (b) Comprises fish, fruit and vegetables.  
 (c) Comprises all food excluding fish, fruit and vegetables.

**Chart 4.7 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 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 2012 Q4 is an estimate. In 2012 Q4, export prices for Croatia, Pakistan, the Philippines and Turkey are 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) Domestic currency export prices of goods and services of 52 countries, as defined in footnote (a).  
 (c) Goods and services excluding fuels deflator, excluding the impact of MTIC fraud.

### Agricultural prices

UK consumer food price inflation has risen since mid-2012 (**Chart 4.6**), largely reflecting past rises in food commodity prices. Wet weather in the United Kingdom reduced vegetable crop yields in the second half of 2012, and so led to higher prices. That will have fed directly into UK seasonal consumer food prices. In addition, the price of grains traded on international markets increased sharply in mid-2012 (**Chart 4.5**), as weather conditions adversely affected harvests around the world. Although most of those rises have since unwound, temporarily higher prices have raised the price of foodstuffs such as bread and cereals, and so contributed to higher non seasonal food prices.

Consumer food price inflation is likely to remain elevated in coming months, as the 2012 H2 increases in commodity and seasonal food prices continue to feed through the food supply chain. In addition, the depreciation of sterling since the start of 2013 is likely to raise imported food costs. There is a risk that food prices could rise more rapidly than currently anticipated. For example, the recent period of wet weather in the United Kingdom disrupted the planting of vegetables: if that results in lower domestic crop yields later in 2013, it is likely to lead to further increases in seasonal food prices.

### Non-fuel import prices

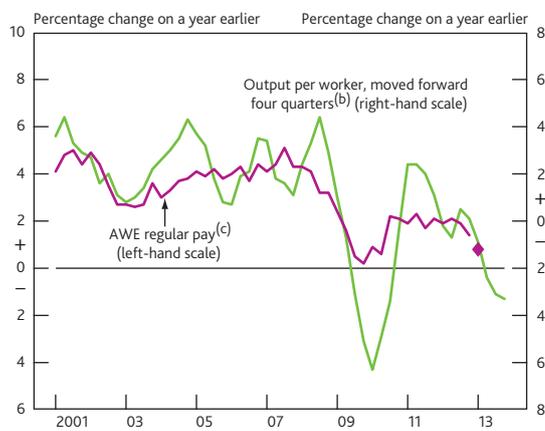
UK non-fuel import prices have been volatile in recent years (**Chart 4.7**). They rose markedly in 2010 and 2011, as increases in a range of commodity prices raised the production costs of companies across the world and so led to higher foreign export prices. They then fell during 2012, due to a diminution of foreign export price inflation alongside a modest appreciation of sterling. But given that the sterling ERI has fallen about 5% since the start of the year, they are likely to rise again during 2013 H1.

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

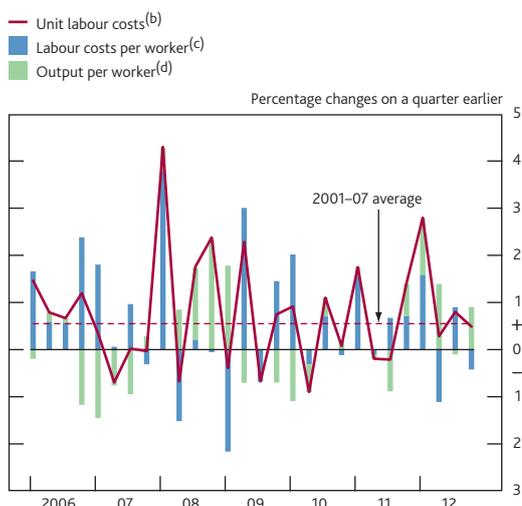
Percentage changes on a year earlier	Averages			2012 Q4	2013 Feb. <sup>(b)</sup>
	2001– 07	2008 Q3– 2010 Q2	2010 Q3– 2012 Q3		
(1) Total AWE	4.3	0.7	2.0	1.3	0.2
(2) AWE regular pay <sup>(c)</sup>	3.9	1.6	2.0	1.4	0.8
(1)–(2) Bonus contribution <sup>(d)</sup>	0.4	-0.9	0.0	-0.1	-0.7
Pay settlements <sup>(e)</sup>	3.3	2.5	2.1	2.1	2.0

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

- (a) Based on quarterly data unless otherwise stated.  
 (b) Data in the two months to February.  
 (c) Total pay excluding bonuses and arrears of pay.  
 (d) Percentage points. The bonus contribution does not always equal the difference between total average weekly earnings (AWE) growth and AWE regular pay growth due to rounding.  
 (e) Average over the past twelve months, based on monthly data.

**Chart 4.8 Private sector pay and productivity<sup>(a)</sup>**

- (a) Quarterly measures.  
 (b) Market sector output per worker. The latest observation is 2012 Q4.  
 (c) Diamond is an estimate for 2013 Q1 based on data in the two months to February 2013.

**Chart 4.9 Contributions to private sector unit labour costs<sup>(a)</sup>**

Sources: ONS and Bank calculations.

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

The contribution of these non-fuel import prices to CPI inflation is, however, likely to have been more stable, since it takes time for changes in UK companies' costs to feed through into consumer prices. Indeed, the MPC judges that non-fuel import prices, despite falling in 2012, are at present making a sizable positive contribution to CPI inflation, which is likely to wane only gradually in coming quarters.

### 4.3 Labour costs and company profits

#### Labour costs

In addition to commodity and import prices, the path of inflation depends on developments in companies' labour costs. The measure of labour costs that has most bearing on companies' pricing decisions is the average cost of each unit of output produced — the unit labour cost — which is determined by developments in productivity (Section 3) and wages.

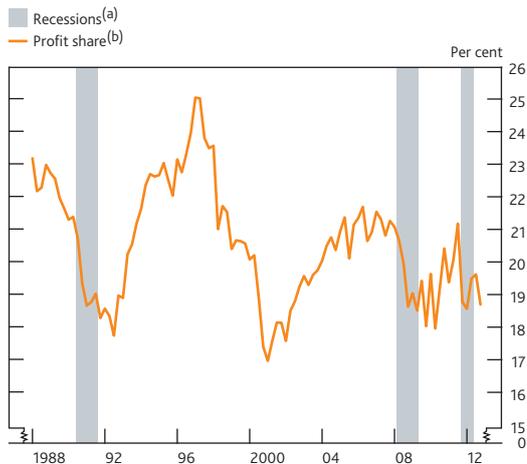
Twelve-month private sector regular pay growth slowed towards the end of 2012, and in Q4 stood at just 1.4%, much lower than its pre-recession average growth rate (Table 4.A). And it weakened again in the two months to February, to just 0.8% (Chart 4.8). Indeed, the level of regular pay has been broadly flat since mid-2012. Total pay growth in the first two months of 2013 was further weighed down by a negative contribution from bonuses (Table 4.A): that is, however, unlikely to contain much information about future pay growth since bonuses are typically related to past performance.

It is unclear why regular pay growth has weakened so much in recent months. The slowing seems too persistent to be erratic. It does not appear to be due to a change in the composition of employment towards less experienced staff. Nor does it seem to reflect greater downward pressure from a widening margin of labour market slack: indicators of slack, such as the unemployment rate, have been broadly unchanged in the past six months or so (Section 3). Some of the slowing may have reflected a weakening in productivity growth since late 2011: sharp movements in productivity growth have tended to be associated with changes in regular pay growth about one year later (Chart 4.8). And higher labour market participation (discussed in the box on page 27) may have allowed companies to contain pay growth by more than they otherwise would.

As a result of the weakening in pay growth, growth in private sector unit labour costs slowed in 2012, but only to rates close to the 2001–07 average (Chart 4.9). It is, however, likely to have slowed a little further since then, given the weakening in regular pay growth since the end of 2012. The medium-term outlook for unit labour cost growth is discussed in Section 5.

#### Company profits

As has been the case for much of the period since the 2008/09 recession, private sector output prices did not rise in line with

**Chart 4.10** Private sector corporate profit share

Sources: ONS and Bank calculations.

- (a) Recessions are defined as at least two consecutive quarters of falling output (at constant market prices) estimated using the latest data. The recessions are assumed to end once output began to rise.
- (b) 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 data have been seasonally adjusted by Bank staff.

unit labour costs in 2012. Largely reflecting that, ONS data suggest that the profit share — an indicator of companies' aggregate profit margins — remained a little below its pre-recession average in Q4 (Chart 4.10).

Companies' profitability may need to recover so that they can deliver sufficiently attractive returns to investors. Some of that restoration of margins could occur through a reallocation of resources across companies, from those with relatively narrow margins to those with wider margins. But it could also be brought about by: lower cost growth — for example, if productivity growth picks up relative to nominal wage growth; larger price rises; or some combination of the two. Businesses' ability to bear down on wage growth, and to raise prices, will be influenced by the amount of slack in the economy (Section 3) and inflation expectations (Section 4.4).

## 4.4 Inflation expectations

The pace at which inflation falls back from its current rate will depend, in part, on movements in inflation expectations and how they affect the behaviour of those setting prices and wages. For example, if businesses expect inflation to persist above the target for longer than the MPC's forecasts imply, then that could prompt them to raise their prices by more and/or grant higher pay awards than they would otherwise have done, so helping to validate their expectation that elevated inflation would persist.

Survey measures of near-term inflation expectations were little changed in Q1 (Table 4.B). And many indicators of longer-term inflation expectations stood close to their series averages. But, as discussed in the box on pages 36–37, there is tentative evidence that expectations derived from financial markets have become more sensitive to developments in the economy in the past year. That could indicate that some investors believe that the MPC has become more tolerant of deviations of inflation from the target.

There are, however, few signs that inflation expectations have triggered changes in price and wage-setting behaviour that would make elevated inflation persist for longer. For example, in the Q1 BCC surveys, the net percentage balance of companies reporting that they expect their own prices to rise in the next three months stood at around its 1997–2006 average. Results from the latest Bank/NOP survey indicate that only a small proportion of employees are planning to seek higher pay in response to higher expected inflation. And although results from the XpertHR survey suggest that elevated inflation has exerted upward pressure on pay awards, that has not been reflected in higher settlements (Table 4.A). 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).

**Table 4.B** Indicators of one year ahead inflation expectations<sup>(a)</sup>

Per cent	Averages since 2006 <sup>(b)</sup>	2011	2012	2013	
				Q1	Apr.
<b>Households<sup>(c)</sup></b>					
Bank/NOP	3.2	4.1	3.5	3.6	n.a.
Barclays Basix	3.2	4.0	3.1	3.1	n.a.
YouGov/Citigroup	2.7	3.4	2.7	2.8	2.6
<b>Companies<sup>(d)</sup></b>					
Memo: CPI inflation	3.0	4.5	2.9	2.8	n.a.

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

- (a) Data are non seasonally adjusted.
- (b) Except for companies, which is an average since 2008 Q2.
- (c) 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.
- (d) 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.

## Monitoring developments in 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). Elevated inflation over the past has largely reflected the temporary effects of rises in VAT, energy and import prices; over the forecast period it largely reflects the impact of the depreciation of sterling earlier this year, as well as the judgement that the unusually high contribution from administered and regulated prices will persist. Under its remit, the MPC has the flexibility to temper the speed at which inflation returns to the target in order to limit the volatility of output, subject to meeting the inflation target in the medium term.

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. For example, even if people expect inflation to return to the target eventually, they may believe that the MPC has become more tolerant of medium-term deviations of inflation from the target. Or they might come to doubt the determination of the MPC to return inflation to the target in the long run. Such changes could, by triggering changes in wage and price-setting behaviour, cause inflation itself to become more persistent. Returning inflation to the target would then require a greater tightening of monetary policy, with the associated cost of lower demand. This box uses recent developments in indicators of inflation expectations to assess this risk.

### Long-term inflation expectations

If individuals were to doubt the MPC's determination to return inflation to the target in the long run, then: the level of long-term inflation expectations might move away from the target; long-term expectations might become more sensitive to news about the economy; and uncertainty about inflation in the long term might rise.

Indicators of households' long-term inflation expectations generally remained around their post-2005 averages in early 2013 (Table 1). But most of these measures have only a short backrun, covering a period when inflation averaged above the target. So it is not clear if those averages are consistent with inflation being close to the target in the long term.

Indicators of inflation expectations implied from financial instruments that reference RPI inflation — such as inflation swaps — will reflect not only expected CPI inflation but also market participants' views about the future wedge between RPI and CPI inflation, together with a risk premium to

**Table 1** Indicators of inflation expectations<sup>(a)</sup>

Per cent	Averages			2013		
	Since 2005 <sup>(b)</sup>	2010	2011	2012	Q1	Q2 <sup>(c)</sup>
<b>Medium-term inflation expectations (number of years ahead)</b>						
<b>Households:<sup>(d)</sup></b>						
Bank/NOP (2)	2.9	2.8	3.4	3.1	3.4	n.a.
Barclays Basix (2)	3.4	3.4	4.0	3.3	3.5	n.a.
<b>Professional forecasters (3)<sup>(e)</sup></b>	2.0	2.0	2.2	2.1	2.1	2.2
<b>Financial markets (3)<sup>(f)</sup></b>	2.7	2.9	3.1	2.6	3.1	3.1
<b>Long-term inflation expectations (number of years ahead)</b>						
<b>Households:<sup>(d)</sup></b>						
Bank/NOP (5)	3.2	3.2	3.5	3.4	3.6	n.a.
Barclays Basix (5)	3.8	3.8	3.9	3.9	3.6	n.a.
YouGov/Citigroup (5–10)	3.4	3.3	3.6	3.4	3.5	3.4
<b>Financial markets (5–10)<sup>(g)</sup></b>	3.3	3.5	3.3	3.1	3.4	3.5
Memo: CPI inflation	2.9	3.3	4.5	2.9	2.8	n.a.

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

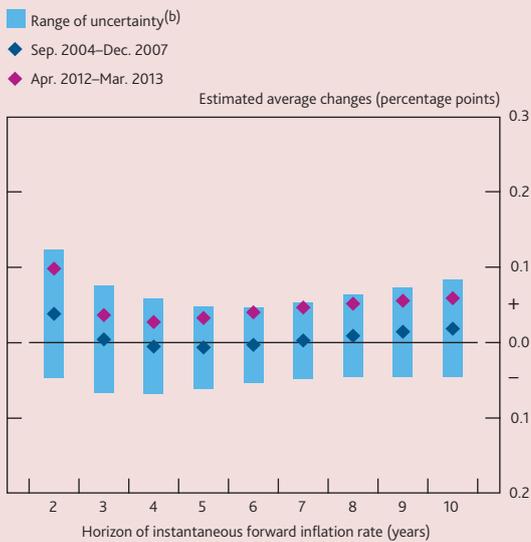
Note: Footnote (f) was incorrectly labelled as 'Instantaneous RPI inflation three years ahead implied from swaps' in the printed version of the Report.

- (a) Data are non seasonally adjusted.  
 (b) Since 2009 Q1 for Bank/NOP data. Since 2008 Q3 for Barclays Basix five years ahead data. Since 2006 Q2 for professional forecasters. Since 2006 Q1 for YouGov/Citigroup data.  
 (c) YouGov/Citigroup data are for April. Financial markets data are the average from 2 April to 8 May.  
 (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) Bank's survey of external forecasters.  
 (f) RPI inflation over the next three years implied from swaps.  
 (g) Five-year, five-year forward RPI inflation implied from swaps.

compensate for uncertainty about future inflation. An indicator of expected inflation five to ten years ahead implied from swaps fell in May 2012, due to speculation that the formulae used to calculate the RPI would be changed in a way that would eliminate much of the RPI-CPI wedge. And on 10 January 2013, when the National Statistician announced that the RPI would not change, that indicator rose sharply, bringing it back into line with its average since 2005. It remained around that level in 2013 Q2 (Table 1), which market contacts report is consistent with participants expecting CPI inflation to be around the target in the long run.

There is tentative evidence that long-term inflation expectations have become more sensitive to news in recent years. 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 past year in magenta. In the five to ten year ahead window, the magenta diamonds are above the blue, suggesting that inflation expectations at long horizons have become more sensitive to news in the past year than they were previously. But the size of the changes is small relative to the uncertainty surrounding the estimates.

**Chart A** Estimated average changes in instantaneous forward inflation rates derived from swaps in response to CPI news<sup>(a)</sup>



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 show two standard errors either side of the estimated slope coefficients for September 2004 to December 2007.

Evidence on uncertainty about expected inflation in the long term is mixed (**Chart B**). Measures derived from option prices, for example, suggest that uncertainty among financial market participants is currently higher than in 2008.<sup>(1)</sup> But the diversity of views across households, for example as measured by the interquartile range of expectations recorded by the YouGov/Citigroup survey, stands at broadly the same level as it did in 2006.

**Chart B** Indicators of uncertainty about future inflation



Sources: Bloomberg, Citigroup, YouGov and Bank calculations.

- (a) The interquartile range of responses recorded by the YouGov/Citigroup survey. The survey does not reference a specific price index.
- (b) 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.

## Medium-term inflation expectations

Even if individuals believe that inflation will be around the target in the long term, they might believe that the MPC has become more willing to tolerate deviations of inflation from target two to three years ahead — the horizon at which monetary policy affects inflation. That could be evident in medium-term inflation expectations moving further away from the target than would be anticipated given developments in the economy, or becoming more sensitive to news.

There are few signs that professional forecasters' and households' medium-term inflation expectations have risen by more than would be expected in recent months. Although survey indicators have ticked up since the end of 2012 (**Table 1**), those increases were similar to the upward revision to the MPC's central projection for inflation two years ahead since November 2012.

There is, however, a little evidence that medium-term inflation expectations derived from financial markets have become less well anchored. Expected inflation two years ahead implied from swaps has become more sensitive to CPI inflation news in the past year than it was between 2004 and 2007 (**Chart A**).

## Conclusion

Although indicators of households' and professional forecasters' inflation expectations still appear consistent with the inflation target, there is tentative evidence that expectations derived from financial markets have become more sensitive to news about the economy in the past year. That could, however, just reflect the imperfect nature of the data and the degree of uncertainty surrounding these metrics. The MPC continues to monitor these indicators and to review evidence on the extent to which inflation expectations are affecting price and wage-setting behaviour (Section 4.4).

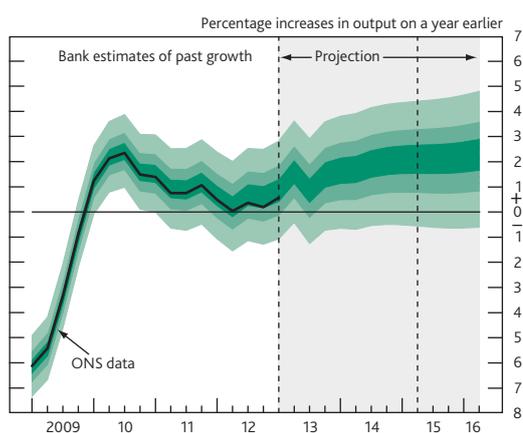
(1) For more information, see Smith, T (2012), 'Option-implied probability distributions for future inflation', *Bank of England Quarterly Bulletin*, Vol. 52, No. 3, pages 224–33.

## 5 Prospects for inflation

A modest and sustained recovery in output is in prospect. The pace of expansion is likely to be considerably weaker than in a typical cyclical upswing, reflecting the long-lasting legacy of the financial crisis. The risks remain to the downside, in part due to the scale of the requisite adjustment in the euro area.

Inflation is likely to remain above the target for much of the next two years. Over time, however, it should fall back towards 2% as external price pressures fade and a gradual revival in productivity growth curbs domestic cost pressures. The risks to inflation are broadly balanced around the 2% target in the latter part of the forecast period.

**Chart 5.1** GDP projection based on market interest rate expectations 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.

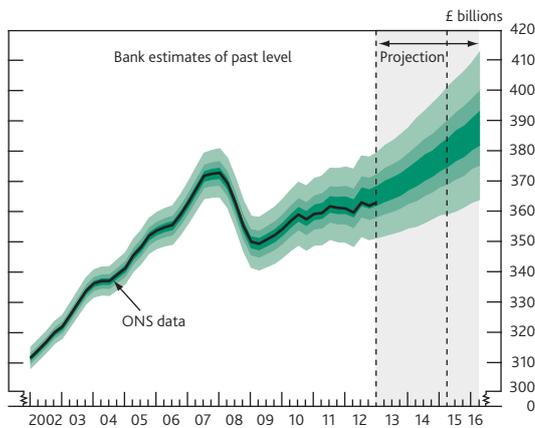
The legacy of the financial crisis has been a weak and uneven recovery. But in time, the consequences of the crisis should fade, allowing economic growth to take firmer hold. In the Monetary Policy Committee's best collective judgement, the United Kingdom is set for modest and sustained growth in output (Chart 5.1). The prospective recovery remains much weaker than previous cyclical upswings, reflecting the scale of adjustment and repair associated with the financial crisis. Output is more likely than not to remain below its pre-crisis level for another year or so (Chart 5.2).

Despite the pronounced and persistent weakness in output growth, inflation has been above the 2% target for an extended period. That largely reflects external shocks to the price level, such as higher energy prices, as well as unusually large increases in administered and regulated prices. Over time, inflation is likely to fall back towards the target as external price pressures fade and a gradual revival in productivity growth curbs domestic cost pressures (Chart 5.3); the corresponding projection from the February Report is shown in Chart 5.4. The risks are broadly balanced in the latter part of the forecast (Chart 5.5).

The fan charts presented in this section have fewer bands, each containing greater probability mass, than has been the case in previous Reports. The MPC is of the view that these wide-band charts provide a better guide to the broad shape of its projections. The corresponding narrow-band fan charts are provided on the Bank's website,<sup>(1)</sup> alongside a wide range of other forecast charts and tables. A box on page 49 discusses recent and prospective changes to the *Inflation Report*.

(1) Available at [www.bankofengland.co.uk/publications/Documents/inflationreport/2013/ir13maycp.pdf](http://www.bankofengland.co.uk/publications/Documents/inflationreport/2013/ir13maycp.pdf).

**Chart 5.2** Projection of the level of GDP based on market interest rate expectations and £375 billion asset purchases



Chained-volume measure (reference year 2009). 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.

## 5.1 Key judgements and risks

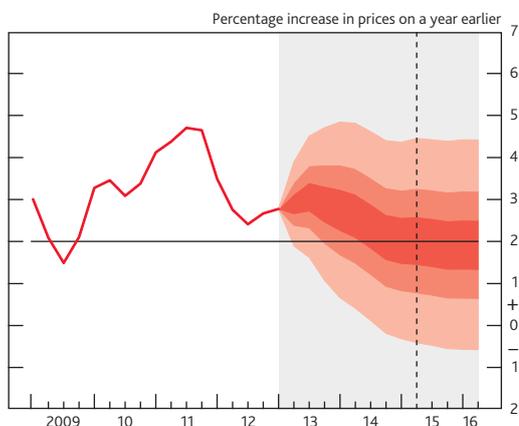
The broad shape of the Committee's projections is underpinned by a number of key judgements. It is highly unlikely, however, that the economy will evolve in line with these assumptions. For that reason, it is essential to assess the risks to the judgements, the implications these risks may have for demand and inflation, and how the judgements and risks can be monitored. For each of the four key judgements listed below, Table 5.A on page 42 provides a set of indicators that should assist with monitoring the degree to which the risks to growth and inflation are crystallising.

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

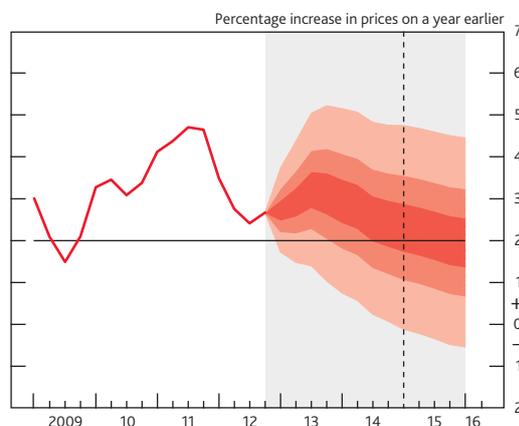
The fallout from the financial crisis has had serious repercussions for economic activity overseas, as well as at home. In response, international policymakers have put in place a series of initiatives aimed at supporting their economies. The Committee's central projection assumes that policymakers are able to facilitate a global recovery, such that world growth gradually strengthens to around its historical average rate. In the near term, the central view assumes a protracted period of weak growth in the euro area, continued expansion in the United States, sustained growth in Japan and stable to gently rising growth in the emerging economies.

On balance, the risks to global growth remain weighted to the downside, in large part reflecting the continuing adjustment within the euro area. Despite a degree of progress in some Member States, several euro-area countries still face considerable medium-term challenges in reducing debt, and increasing competitiveness. Disorderly adjustment remains a

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

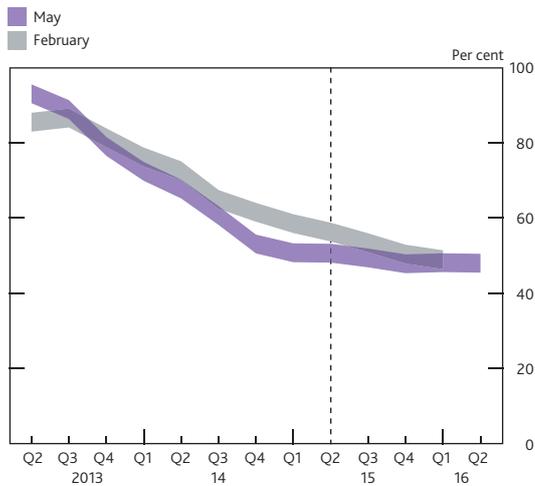


**Chart 5.4** CPI inflation projection in February based on market interest rate expectations and £375 billion asset purchases



Charts 5.3 and 5.4 depict the probability of various outcomes for CPI inflation in the future. They have been conditioned on the assumption that the stock of purchased assets financed by the issuance of central bank reserves remains at £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 5.3 and 5.4, 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 5.5** An indicator of the probability that inflation will be above the target



The May and February swathes in this chart are derived from the same distributions as Charts 5.3 and 5.4 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 May projection. The two-year point of the February projection was one quarter earlier.

risk. As in previous *Reports*, the MPC's projections exclude the most extreme outturns associated with disorderly euro-area adjustment. That said, the risks of extreme outturns materialising will be reflected in financial markets and in confidence, and those influences are included in the fans.

A gradual improvement in the global environment should benefit the United Kingdom, both via trade and via financial markets. UK export demand should be buoyed by an uplift in world trade growth. That said, UK export performance has disappointed of late, and exporters may not succeed in capitalising on the global recovery through increased export volumes to the extent implied by the central view. A brightening in financial markets would be supportive of UK growth in a number of ways — not least through its impact on bank funding costs. Bank funding costs have fallen sharply since the summer of 2012, and the Committee's central projection assumes that these falls are sustained, with associated benefits for UK credit supply (see Key Judgement 2 below).

There is a range of medium-term financial market risks associated with the current exceptionally loose stance of monetary policy internationally. For example, as the global recovery takes hold, it is likely that market participants will increasingly question the willingness of monetary policy makers to maintain the current highly accommodative policy stance. That could be associated with disorderly market moves, especially if there are sudden reappraisals of the outlook.

**Key Judgement 2: the consequences of the financial crisis slowly fade, such that consumer and business spending gradually recover**

The scale of adjustment and repair associated with the financial crisis has weighed on domestic spending in a number of ways — credit conditions have become tighter; households and companies have become more pessimistic about income prospects; uncertainty about the outlook has risen; and the Government has put in place a continuing fiscal consolidation. Together, these inter-related influences contributed both to the sharp fall in spending at the start of the crisis, and the weakness of the recovery since.

Over time, many of these adverse influences on spending should wane, aided by policy initiatives such as the low level of Bank Rate, the MPC's asset purchase programme, the Funding for Lending Scheme (FLS) and the impact of the recommendations of the Financial Policy Committee (FPC). As such, the Committee's central view is for a gentle recovery in consumer and business spending, accompanied by a gradual healing of the banking sector.

There are a number of risks to the Committee's view on domestic spending. One set of risks relates to bank credit. The central view assumes that the current low level of funding

costs is maintained, and embodies a continued easing in credit conditions. The extended FLS should sharpen banks' incentives to lend to smaller businesses, and should assure lenders of access to low-cost funding until the start of 2015. In the event of further near-term financial market disruption, this should also help to mitigate the risks to the UK banking sector by acting as a backstop to funding costs (see Key Judgement 1).

It is possible that competition between retail banks may be insufficiently keen to deliver the degree of easing implicit in the central profile. And, in the near term, the extent of the impairment of the banking system may weigh on credit conditions to a greater degree than implied by the central view. Set against that, however, is the possibility that UK bank funding costs decline further as the implementation of the FPC's recommendations leads to a fall in risks, as well as in investors' uncertainty about the outlook for banks' underlying capital positions. More generally, medium-term credit conditions may be more favourable than implied by the central view if the implementation of the FPC's recommendations accelerates the assumed pace of healing in the financial sector.

Even if the supply of bank credit evolves as expected, demand for credit may be weaker than assumed. That could reflect a deterioration in trust — companies may be reluctant to re-engage with the retail banks following adverse experiences during the worst of the crisis. Alternatively, protracted weakness in loan demand may simply be one manifestation of a broader set of downside risks: namely, that heightened uncertainty and/or pessimism about prospects for private sector income weigh on spending to a greater extent than assumed in the central view.

This risk of protracted spending weakness is particularly pertinent to the consumer sector, where high debt levels may have amplified the response of some households to the reassessment of prospects that accompanied the financial crisis (see pages 22–23). Compared with the central view, households may therefore wish to save a greater proportion of their income. That also could arise if they were more uncertain about the adequacy of retirement provision, or placed greater value on having access to funds in an emergency.

There are also upside risks to spending. For example, the private sector adjustment to future income prospects may be less pronounced, or nearer to completion, than assumed in the central view. Another possibility is that a rapid reduction in uncertainty is associated with a more forceful upswing in spending. These upside risks may be particularly pertinent to companies, many of which entered the recession with reasonably strong balance sheets. In typical UK cyclical upswings, business investment expands rapidly once the recovery takes hold. However, in the Committee's central view, the fallout from the financial crisis is associated with a relatively muted near-term path for business investment. That

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

The Committee's projections are underpinned by a number of key economic judgements. Risks surround all of these, and the MPC will be monitoring a broad range of indicators to understand the degree to which those risks are crystallising in the near term. No single indicator is key, and the precise

evolution of the indicators — as well as the associated implications for GDP and inflation — will be affected by the nature of the shocks hitting the economy. That said, the table below provides guidance on the likely path for the indicators if the judgements in the MPC's central view evolve as expected.

Key judgement	Expected near-term path for indicators if judgements evolve as expected
<b>1: international policy initiatives facilitate a sustained, but gradual, global recovery</b>	<ul style="list-style-type: none"> <li>• Zero to positive quarterly growth in the euro area in 2013 H2.</li> <li>• A mild deterioration in US activity indicators in the near term; a modest acceleration thereafter.</li> <li>• Growth rates in China and other emerging economies stabilising at, or a little above, current rates.</li> <li>• Broadly stable indicators of international and UK bank funding costs.</li> </ul>
<b>2: the consequences of the financial crisis slowly fade, such that consumer and business spending gradually recover</b>	<ul style="list-style-type: none"> <li>• Sustained growth in consumer spending, albeit at a rate materially below its 1998–2007 average of 0.9% a quarter.</li> <li>• A gradual pickup in business investment growth, albeit only to a rate below its 1998–2007 average of 1.1% a quarter in the near term.</li> <li>• Further small declines in the cost of credit to households, as well as to large and small companies; signs of further increases in credit availability, for example in the Bank's <i>Credit Conditions Survey</i>.</li> <li>• Steady rises in mortgage approvals for home purchase, albeit to levels materially below their pre-crisis average.</li> <li>• The contraction in PNFC lending to ease through 2013.</li> </ul>
<b>3: the recovery in demand is accompanied by a broadly corresponding expansion of effective supply</b>	<ul style="list-style-type: none"> <li>• Near-term indicators of spare capacity continuing to point to a small margin of slack within companies.</li> <li>• Four-quarter growth in private sector employment slowing, but remaining positive.</li> <li>• A flat to gently rising labour force participation rate, such that the unemployment rate falls by only a little.</li> <li>• A gentle rise in labour productivity growth.</li> </ul>
<b>4: a revival in productivity growth curbs domestic cost pressures, meaning that inflation gradually returns to target as external pressures fade</b>	<ul style="list-style-type: none"> <li>• Indicators of medium-term inflation expectations continuing to be consistent with the 2% inflation target; see the box on pages 36–37 of Section 4 for more detail.</li> <li>• A small decline in growth in private sector unit labour costs in 2013 H2.</li> <li>• Surveys of company pricing expectations consistent with relatively muted increases in output prices.</li> <li>• Commodity prices and the sterling ERI evolving roughly in line with the conditioning assumptions underpinning the central view; see the box on page 45.</li> </ul>

assumption could prove too pessimistic, with associated upside risks to growth.

**Key Judgement 3: the recovery in demand is accompanied by a broadly corresponding expansion of effective supply**

The legacy of the financial crisis has materially affected the supply side of the economy (Section 3). One manifestation is that, in the face of pronounced weakness in output, employment has been unexpectedly strong, with an associated large fall in measured labour productivity.

A key judgement underpinning the MPC's forecasts relates to the likely evolution of supply capacity. In the Committee's best collective judgement, the prospective gradual recovery in demand should be matched by a broadly corresponding expansion in effective supply, and a margin of slack is assumed to persist throughout the forecast period. There is a large degree of uncertainty about the prospective path for effective supply. But this will have relatively limited implications for inflation to the extent that demand and effective supply move together.

Downside risks to supply could materialise if the impairment of the banking system is associated with larger, and more persistent, impediments to the efficient allocation of capital than implicit in the central view. That would probably also be associated with a weaker outlook for demand. The implications for inflation would depend upon the degree to which the demand-side weakness counterbalanced the impairment to supply, though, on balance, the risks would probably lie to the upside.

Effective supply may also expand more rapidly than assumed in the central view. At least some of the observed weakness in productivity is likely to be related to the temporary weakness in demand — for example, employees may be having to devote more effort to generating business than to producing output, and companies may have been reluctant to shed skilled labour despite weak demand for their goods and services. A rapidly brightening economic outlook and an associated reduction in uncertainty could therefore be associated with a marked expansion in supply. The implications for inflation would depend upon the balance of the demand-side and supply-side effects, though, on balance, the risks would probably lie to the downside.

A final set of risks relates to the labour market. The Committee's central view assumes that the anticipated revival in productivity growth is primarily associated with increases in output rather than falls in employment. But if the pace of the recovery in demand proves more sluggish than expected, then companies could cut back on their workforce, representing a downside risk to employment and activity.

There are also risks to employment associated with labour market participation. In contrast to previous UK cyclical downturns, the participation rate (the proportion of the adult population who are actively seeking, or who are in, employment) has been relatively resilient — meaning that employment is stronger, and wage growth weaker, than it might otherwise have been. Trends in participation reflect a number of influences, probably including concerns about the adequacy of retirement income and changes in the benefit regime (see page 27). The MPC's central view assumes a broadly flat participation rate; that contrasts with the gentle decline implicitly assumed in February.

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

Inflation has been above the MPC's 2% target for more than three years, and is likely to remain above the target for much of the next two years. That largely reflects the impact of the depreciation of sterling earlier this year, and the judgement that the unusually large contribution to inflation from administered and regulated prices persists (Section 4). Despite past and prospective periods of above-target inflation, most measures of long-run inflation expectations remain close to their series averages. An important aspect of the Committee's projections is the assumption that households and companies continue to expect the MPC to return inflation to the target in the medium term.

The post-crisis period has been characterised by a marked weakening in wage growth. It is not clear why recent wage growth has been quite as weak as it has, although weaker productivity and the degree of slack in the labour market are both likely to have played a part. The Committee's central view assumes that wage growth picks up somewhat through the forecast period.

Companies' labour costs depend upon both nominal wage growth and movements in productivity. In much of the recent past, wage growth has not been sufficiently weak to compensate for the pronounced weakness in productivity growth. As such, unit labour costs in the private sector have been rising at around or above their pre-crisis average rate. The MPC's central view embodies the assumption that, as output strengthens, productivity growth increases relative to wage growth for a period, so that growth in companies' labour costs eases. If, however, medium-term inflation expectations were to rise, there would be a material risk that growth of nominal wages would markedly exceed that of productivity — say as employers awarded higher wages to retain and motivate their staff in the knowledge that they could recoup these costs in higher prices.

In the medium term, profit margins have to be sufficiently high to deliver a satisfactory return to investors. In recent years, increases in companies' output prices have not kept pace with their costs, meaning that profitability has been squeezed. The MPC's central view is consistent with some restoration of margins: slower labour cost growth is not fully matched by slower output price inflation. However, there is uncertainty about the likely pace, and the degree to which, company profitability will rise. On the one hand, companies may raise output prices at a faster rate than assumed — particularly if they begin to doubt the MPC's commitment to medium-term price stability. On the other hand, companies may struggle to make price rises stick in an environment of relatively weak growth in demand.

## Forecast conditioning assumptions

As a benchmark assumption, the projections for GDP growth and CPI inflation described in **Charts 5.1** and **5.3** are conditioned on a path for Bank Rate implied by market interest rates (**Table 1**). In the period leading up to the MPC's May decision, the path implied by forward market interest rates was for Bank Rate to be a little below 0.5%, the current level of Bank Rate, until 2016. The path for Bank Rate at the time of the *May Report* was, on average, around 0.2 percentage points lower than that assumed in the *February Report*.

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

Per cent	2013			2014				2015				2016	
	Q2 <sup>(b)</sup>	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
May	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.5	0.6
February	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.6	0.6	0.7	0.8	0.9	

(a) The data are fifteen working day averages of one-day forward rates to 8 May 2013 and 6 February 2013 respectively. The curves are based on overnight index swap rates.

(b) May figure for 2013 Q2 is an average of realised spot rates to 8 May 2013, and forward rates thereafter.

The May 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 February projections.

The starting point for sterling's effective exchange rate index (ERI) in the MPC's projections was 80.6, the average for the fifteen working days to 8 May. That was 0.4% below the starting point for the February projections. Under the MPC's usual convention,<sup>(1)</sup> the exchange rate is assumed to remain broadly flat, and is marginally lower throughout the forecast period than was assumed in February.

The starting point for UK equity prices in the MPC's projections was 3381 — the average of the FTSE All-Share for the

fifteen working days to 8 May. That was 3.1% above the starting point for the February 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 5% lower (in US dollar terms) than at the time of the *February 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.

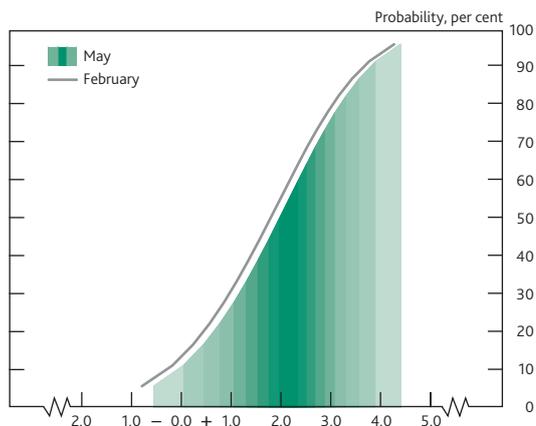
In line with the usual convention, the Committee's projections are conditioned on the Government's tax and spending plans. For this forecast, this means the plans set out in the 2013 March *Budget*, supplemented by the Office for Budget Responsibility's associated *Economic and Fiscal Outlook*. They 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 interim Financial Policy Committee (FPC) (as set out in the 19 March 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.

Even assuming that domestic inflationary pressure remains well-contained, there remains a significant risk that CPI inflation will not evolve as expected because of prices that do not primarily reflect the pressures of domestic demand on supply. The Committee's central projection assumes that administered and regulated prices contribute around 1 percentage point to annual CPI inflation over the next few years. The central view is also conditioned on a range of financial market assumptions (see the box above), including a flat to falling profile for commodity prices and a broadly stable path for the sterling ERI.

**Chart 5.6** Projected cumulative probabilities of four-quarter GDP growth in 2015 Q2<sup>(a)</sup>



**Table 5.B** Percentiles of projected four-quarter GDP growth distribution in May and February<sup>(a)</sup>

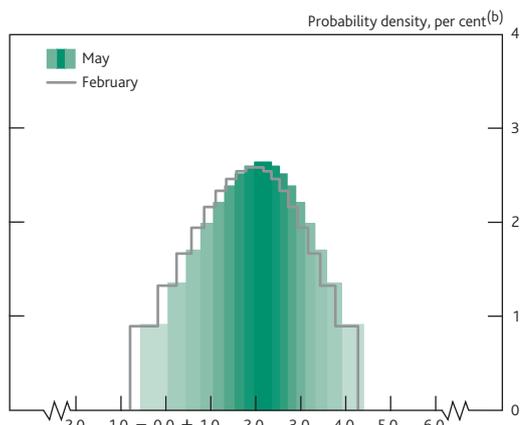
Probability <sup>(b)</sup>	10%	25%	50%	75%	90%
2014 Q2	-0.2 (-0.3)	0.7 (0.6)	1.6 (1.6)	2.6 (2.5)	3.4 (3.3)
2015 Q2	0.0 (-0.3)	0.9 (0.7)	2.0 (1.8)	3.0 (2.8)	3.8 (3.7)
2016 Q2	0.0	1.0	2.2	3.2	4.2

(a) **Chart 5.6** 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 May 2013 and February 2013 *Inflation Reports*, which are 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. The bands in **Chart 5.6** have been coloured to match the equivalent bands in the narrow 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 May projection there is a 25% probability that growth lies between 2.0% and 3.0% in 2015 Q2. 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 February 2013 *Inflation Report*.

There is uncertainty about the outlook for administered and regulated prices, and for external price pressures. And there is also uncertainty about the speed at which the overall inflation rate in the economy adjusts to changes in relative prices, such as those associated with administered and regulated prices. Eventually, as long as medium-term inflation expectations remain anchored, prices elsewhere in the economy will respond such that inflation returns to target. But it is not clear over what time period those price offsets will take place. The MPC's projections are consistent with a relatively protracted adjustment, with above-target inflation in the first two years or so of the forecast period. There is, however, uncertainty about this assumption, with risks to inflation in both directions.

**Chart 5.7** Projected probabilities of GDP growth in 2015 Q2 (central 90% of the distribution)<sup>(a)</sup>



(a) **Chart 5.7** represents the cross-section of the GDP growth fan chart in 2015 Q2 for the market interest rate projection. It has been conditioned on the assumption that the stock of purchased assets financed by the issuance of central bank reserves 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 Q2 would lie somewhere within the range covered by the histogram on 90 occasions. GDP growth would lie outside the range covered by the histogram on 10 out of 100 occasions. The grey outline represents the corresponding cross-section of the February 2013 *Inflation Report* fan chart, which was conditioned on the same assumption about the stock of purchased assets financed by the issuance of central bank reserves.

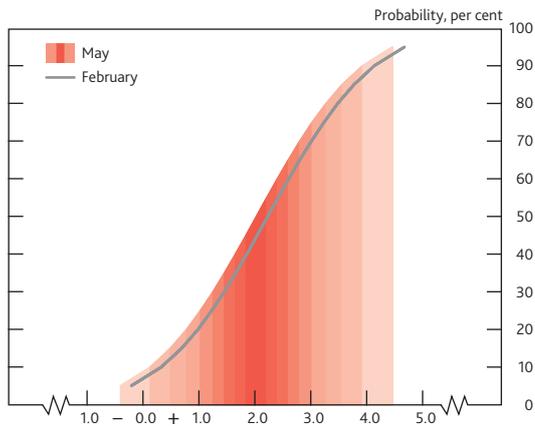
(b) Average probability within each band; the figures on the y-axis indicate the probability of growth being within  $\pm 0.05$  percentage points of any given growth rate, specified to one decimal place. As the heights of identically coloured bars on either side of the central projection are the same, the ratio of the probability contained in the bars below the central projection, to the probability in the bars above it, is given by the ratio of the width of those bars.

## 5.2 The projections for demand and inflation

The key judgements outlined above imply that, in the Committee's central view, the UK economy is set for a modest and sustained recovery in both demand and effective supply — aided by the low level of Bank Rate, the MPC's programme of asset purchases, the extended Funding for Lending Scheme and the impact of the recommendations of the Financial Policy Committee. The scale of repair and adjustment necessitated by the financial crisis means that the recovery is likely to be subdued by historical standards. For example, assuming that Bank Rate evolves in line with the present market yield curve and the MPC maintains the size of the asset purchase programme at £375 billion, the Committee judges that there is a 50% chance that four-quarter GDP growth will be at or below 2.2% in three years' time (**Chart 5.6** and **Table 5.B**).

There is a range of views on the Committee about the outlook for output growth. But, in the MPC's best collective judgement, the balance of risks is weighted to the downside, reflecting the possibility that the repercussions of the crisis weigh on demand to a greater degree than assumed in the central view. Compared with February, the central view is a little higher (**Chart 5.7**). That in part reflects developments in

**Chart 5.8** Projected cumulative probabilities of four-quarter CPI inflation in 2015 Q2<sup>(a)</sup>



**Table 5.C** Percentiles of projected CPI inflation distribution in May and February<sup>(a)</sup>

Probability <sup>(b)</sup>	10%	25%	50%	75%	90%
2014 Q2	0.9 (1.1)	1.7 (1.9)	2.6 (2.8)	3.5 (3.7)	4.3 (4.6)
2015 Q2	0.1 (0.3)	1.0 (1.2)	2.0 (2.2)	3.0 (3.2)	3.9 (4.1)
2016 Q2	0.0	0.9	1.9	2.9	3.9

(a) **Chart 5.8** and **Table 5.C** 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 May 2013 and February 2013 *Inflation Reports*, which are 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. The bands in **Chart 5.8** have been coloured to match the equivalent bands in the narrow 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 May projection there is a 25% probability that inflation lies between 2.0% and 3.0% in 2015 Q2. 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.

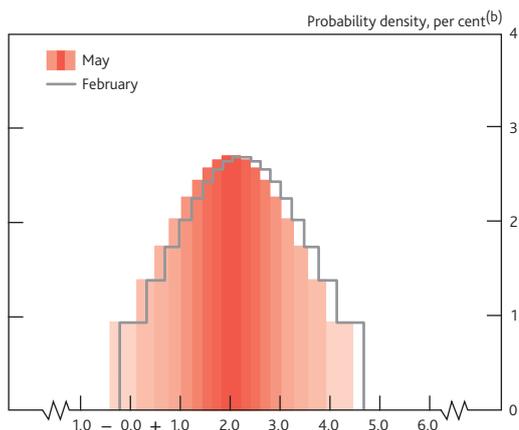
(b) In **Table 5.C**, the numbers in parentheses show the corresponding percentiles in the February 2013 *Inflation Report*.

the conditioning paths for asset prices: both the market yield curve and the assumed path for the sterling ERI are a little lower than three months ago. But it also reflects a judgement that participation in the labour market is likely to be higher than previously assumed. This modest uprating in the central projection for GDP growth, combined with GDP revisions by the Office for National Statistics, means that the central estimate of the level of output ends the three-year forecast period around 1% higher than was the case in February.

In the Committee's best collective judgement, domestic cost pressures are likely to ease over the forecast period as productivity growth gradually revives. Medium-term inflation expectations are assumed to remain anchored on the target. And external pricing pressures are assumed to fade. Overall, those assumptions mean that inflation is set to fall gradually back over the forecast period. Even so, CPI inflation is more likely than not to be above the 2% target for much of the next two years (**Chart 5.8** and **Table 5.C**).

There is a range of views on the Committee regarding the outlook for inflation. But, in the Committee's best collective judgement, the risks are judged to be broadly balanced around the 2% target in the latter part of the forecast. Compared with February, the outlook for inflation is a little lower (**Chart 5.9**). In part, that reflects a modest reduction in the assumed path for world prices. It also reflects a weaker path for nominal wage growth, in part due to the upward revision to the assumed labour force participation rate.

**Chart 5.9** Projected probabilities of CPI inflation outturns in 2015 Q2 (central 90% of the distribution)<sup>(a)</sup>



(a) **Chart 5.9** represents the cross-section of the CPI inflation fan chart in 2015 Q2 for the market interest rate projection. It has been conditioned on the assumption that the stock of purchased assets financed by the issuance of central bank reserves 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 Q2 would lie somewhere within the range covered by the histogram on 90 occasions. Inflation would lie outside the range covered by the histogram on 10 out of 100 occasions. The grey outline represents the corresponding cross-section of the February 2013 *Inflation Report* fan chart, which was conditioned on the same assumption about the stock of purchased assets financed by the issuance of central bank reserves.

(b) Average probability within each band; the figures on the y-axis indicate the probability of inflation being within  $\pm 0.05$  percentage points of any given inflation rate, specified to one decimal place. As the heights of identically coloured bars on either side of the central projection are the same, the ratio of the probability contained in the bars below the central projection, to the probability in the bars above it, is given by the ratio of the width of those bars.

## 5.3 The policy decision

The MPC's remit requires the Committee to set monetary policy so as to meet an inflation target of 2%, and, subject to that, to support the Government's economic policy objectives. As set out by the Chancellor in his March 2013 *Budget*, the Committee's latest remit also requires that the MPC promote understanding of the short-run trade-offs inherent in the setting of monetary policy. That is particularly important

when inflation is likely to deviate from the target, and output from its sustainable path, for an extended period.

The nature of the shocks affecting the UK economy in recent years — which have weakened output growth, but raised inflation — have posed substantial challenges for monetary policy. In part, that is because such shocks mean that the Committee faces a trade-off between the speed at which inflation is returned to the target and the support that monetary policy can provide to output and employment. In addition, there is considerable uncertainty about the economy's current supply potential and about the degree to which any upswing in demand would be accompanied by an expansion of effective supply.

When setting policy, the Committee has always recognised such short-run trade-offs. Under its remit, the Committee has the flexibility to temper the speed at which it seeks to return inflation to the target in order to limit the volatility in output, subject to meeting the inflation target in the medium term. This consideration was central to the Committee's policy decision in February, for example. And the MPC remains ready to take a similarly flexible approach in the future, should it be warranted by the outlook for growth and inflation.

When forming its judgement about the appropriate speed with which to return inflation to the target, the Committee has regard to the possible medium-term consequences. In particular, at the current juncture, attempting to return inflation to the target too rapidly would provide less support to output and employment. That in turn, would risk eroding the medium-term supply capacity of the economy. But were the Committee to allow inflation to remain elevated for too protracted a period, households and businesses could begin to doubt the MPC's commitment to returning inflation to the target. That would put medium-term price stability at risk, so limiting the ability of the Committee to respond to shocks in the future.

At its May meeting, the Committee agreed that a modest and sustained recovery in output was in prospect. Inflation was likely to remain above the target for much of the next two years, although the risks around the target were broadly balanced in the latter part of the forecast period. Monetary policy remained highly stimulatory. In the light of those considerations, the Committee judged that, in order to meet the 2% CPI target in the medium term while providing continuing near-term support to the economic recovery, it was appropriate to maintain the current stance of policy. It therefore voted to keep Bank Rate at 0.5% and the size of the asset purchase programme at £375 billion.

## Changes to Section 5 of the *Inflation Report*

Transparent and clear communication is essential for the effectiveness of monetary policy and for the accountability of the MPC. And the *Inflation Report* has played a central role in the Bank of England's communications on monetary policy for more than 20 years. There are currently a number of changes to the *Report* in train. In particular, following the Stockton Review of the MPC's forecasting capabilities and the restatement of the MPC's remit in the March 2013 *Budget*, the MPC has made changes in this *Report*, and, as this box sets out, further changes are planned.<sup>(1)(2)</sup>

### More information about the MPC's forecasts

Following the Stockton Review, the MPC has discussed how it might increase the transparency of communication of its forecasts. That communication occurs, in part, through Section 5 of the *Inflation Report*, which presents the MPC's best collective judgement about the most likely paths for inflation and output, and the uncertainties surrounding those central projections, summarised in the fan charts.

In the February *Report*, Section 5 discussed the key judgements underlying the central view of the outlook for growth and inflation in qualitative terms. The aim over the next year is to increase the quantitative content of that discussion. A related aim is to provide more information on how sensitive the projections are to different assumptions about those key judgements.

These changes should both allow greater external scrutiny of the assumptions underlying each forecast at the time of publication, and make it easier to monitor whether the economy is evolving as the MPC anticipated. In order to aid the latter, the MPC has also committed to producing an enhanced forecast evaluation exercise, in which outturns relative to key judgements can be used to assess whether the economy is evolving differently to the way the MPC expected and why that is the case. This evaluation of the past judgements will then feed into the MPC's deliberations about the outlook.

Although the enhanced forecast evaluation exercise and the introduction of quantitative information about judgements will take time to implement, a number of incremental changes to the way in which information about the MPC's forecast distributions is presented have already been put in place. In this *Report*, more detail has been provided in **Table 5.A** to help readers gauge whether the near-term evolution of the economy is in line with the key judgements. In addition, the charts and tables of cumulative density functions, included since the February *Report*, provide more detail on the growth and inflation projections. And the data

underlying the fan charts will henceforth be published at the same time as the *Report*, alongside an internet chartpack that provides a wider range of charts than can be included in Section 5 itself.

### More detail on monetary policy considerations

The Stockton Review also recommended giving greater weight and attention to the monetary policy issues raised by the evolving economic outlook in the forecast process. That will require changes to internal forecast processes. As those internal changes are implemented, the MPC will, over time, be able to share that analysis in the *Report*.

The way in which the MPC communicates policy is already changing. In particular, the restatement of the MPC's remit in the March *Budget* said that the Committee should promote understanding of the trade-offs inherent in setting monetary policy to meet the 2% inflation target while giving due consideration to output volatility in communicating its judgements. This is particularly important when the economy is facing shocks that push output and inflation in opposite directions, as has been the case recently. In Section 5.3, the MPC sets out more detail of the short-run trade-offs inherent in the setting of monetary policy.

In addition, at the time of the March *Budget*, the Chancellor asked the Committee to set out in the August 2013 *Report* whether explicit forward guidance, including intermediate thresholds, would be a useful tool to use in order to influence expectations and thereby meet its objectives more effectively.

The MPC's remit now also emphasises the importance of co-ordination between monetary policy and macroprudential policy and asks the MPC to reflect in its communications how it has had regard to the actions of the Financial Policy Committee (FPC). Section 5 discusses how the FPC's latest actions have been taken into account by the MPC when producing the projections for growth and inflation, and the MPC will continue to set out their assessment of the impacts of FPC actions, where appropriate. A box on pages 16–17 discusses the links between macroprudential policy and credit conditions.

Overall, greater transparency about the MPC's outlook for the economy, alongside more detail on the MPC's deliberations about monetary policy, should increase the public's understanding of the outlook for the economy, and the sensitivity of policy to different outcomes.

(1) The full Stockton Review can be found at [www.bankofengland.co.uk/publications/Documents/news/2012/cr3stockton.pdf](http://www.bankofengland.co.uk/publications/Documents/news/2012/cr3stockton.pdf).

(2) The MPC remit can be found at [www.hm-treasury.gov.uk/d/chx\\_letter\\_to\\_boe\\_monetary\\_policy\\_framework\\_200313.pdf](http://www.hm-treasury.gov.uk/d/chx_letter_to_boe_monetary_policy_framework_200313.pdf).

## Other forecasters' expectations

Every three months, the Bank asks a sample of external forecasters for their latest economic projections. This box reports the results of the most recent survey, carried out during April. On average, respondents expected annual CPI inflation to fall back over the next three years from its current elevated rate to 2.2% (Table 1). That was in contrast to three months ago, when inflation was, on average, expected to be 2.2% by early 2014: indeed, in the most recent survey far fewer respondents expected inflation one year ahead to be within  $\frac{1}{4}$  percentage point of the target than was the case in the February survey (Chart A). 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 a little stronger than three months ago.

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

	2014 Q2	2015 Q2	2016 Q2
CPI inflation <sup>(b)</sup>	2.5	2.3	2.2
GDP growth <sup>(c)</sup>	1.5	2.0	2.2
Bank Rate (per cent)	0.5	0.7	1.2
Stock of purchased assets (£ billions) <sup>(d)</sup>	410	415	413
Sterling ERI	79.8	81.0	82.8

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

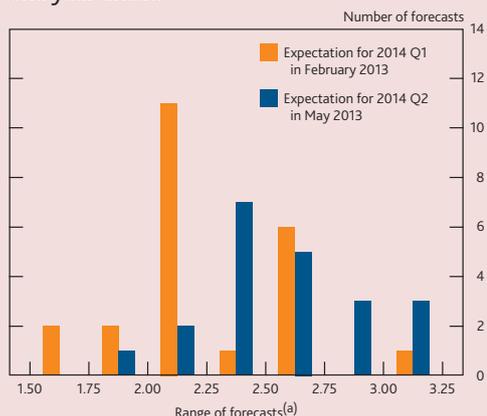
(a) For 2014 Q2, there were 21 forecasts for CPI inflation, 20 for GDP growth, 21 for Bank Rate, 20 for the stock of purchased assets and 16 for the sterling ERI. For 2015 Q2 and 2016 Q2, there were 17 forecasts for CPI inflation and GDP growth, 18 for Bank Rate, 17 for the stock of purchased assets and 14 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.

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



Sources: Projections of 23 outside forecasters as of 29 January 2013 and 21 outside forecasters as of 29 April 2013.

(a) A projection that is on the boundary of these ranges is classified in the higher bucket. For example, a 1.75% projection is included within the 1.75% to 2.00% bucket.

These forecasts assumed a slightly looser monetary stance to those made three months ago. The stock of asset purchases financed by the issuance of central bank reserves was, on average, expected to be £14 billion higher by the three-year horizon. And the sterling ERI was expected to be 2% lower on average over the forecast period.

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 at the one-year horizon rose to around 70% from around 60% in the previous survey; inflation was judged a little more likely to be above the target at the two-year horizon too. That contrasted with the MPC's projections, for which the probability of inflation exceeding the target two years ahead was a little lower in May than in February (Chart B). Respondents judged that inflation was a little more likely to be above the target than below it at the three-year horizon, unchanged from three months ago.

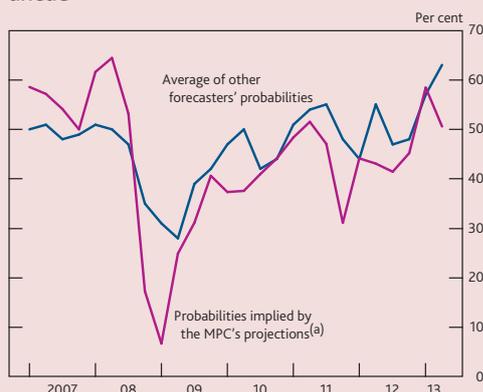
**Table 2** Other forecasters' probability distributions for CPI inflation and GDP growth<sup>(a)</sup>

CPI inflation		Range:						
Probability, per cent		<0%	0-1%	1-1.5%	1.5-2%	2-2.5%	2.5-3%	>3%
2014 Q2		1	3	8	16	22	30	20
2015 Q2		2	5	11	19	25	21	17
2016 Q2		2	7	13	21	23	19	14
GDP growth		Range:						
Probability, per cent		<-1%	-1-0%	0-1%	1-2%	2-3%	>3%	
2014 Q2		3	8	23	40	19	7	
2015 Q2		3	8	17	32	29	12	
2016 Q2		4	8	16	25	30	19	

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

(a) For 2014 Q2, 21 forecasters provided the Bank with their assessment of the likelihood of twelve-month CPI inflation and four-quarter GDP growth falling in the ranges shown above. For 2015 Q2 and 2016 Q2, 17 provided assessments. The table shows the average probabilities across respondents. Rows may not sum to 100 due to rounding.

**Chart B** Probabilities of inflation above 2% two years ahead



Sources: Bank of England and projections of outside forecasters provided for *Inflation Reports* between February 2007 and May 2013.

(a) Probabilities of above-target inflation at the respective two-year horizons of each *Inflation Report* forecast based on successive market rate projections. Since May 2009, these forecasts have been conditioned on paths for asset purchases as described in each *Report*.

On average, respondents' views of the balance of risks to GDP growth over the next three years were little changed from three months ago. The average probability attached to GDP growth being less than 1% one year ahead was, however, lower.

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

**Text of Bank of England press notice of 4 April 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 17 April.

**Text of Bank of England press notice of 9 May 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 15 May.

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

## 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.

**JGB** – Japanese government bond.

**LCF survey** – Living Costs and Food survey.

**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.

**RPI** – retail prices index.

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

### Abbreviations

**BCC** – British Chambers of Commerce.

**BoJ** – Bank of Japan.

**CBI** – Confederation of British Industry.

**CCS** – Credit Conditions Survey.

**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.

**IMF** – International Monetary Fund.

**LBG** – Lloyds Banking Group.

**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.

**Ofgem** – Office of Gas and Electricity Markets.

**ONS** – Office for National Statistics.

**OPEC** – Organization of the Petroleum Exporting Countries.

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

**PRA** – Prudential Regulation Authority.

**PwC** – PricewaterhouseCoopers.

**RBS** – Royal Bank of Scotland.

**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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