Inflation Report

August 2015

BANK OF ENGLAND

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In order to maintain price stability, the Government has set the Bank's Monetary Policy Committee (MPC) a target for the annual inflation rate of the Consumer Prices Index of 2%. Subject to that, the MPC is also required to support the Government's 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, output and unemployment, as well as the uncertainties surrounding those central projections.

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

The Monetary Policy Committee:

Mark Carney, Governor
Ben Broadbent, Deputy Governor responsible for monetary policy
Jon Cunliffe, Deputy Governor responsible for financial stability
Nemat Shafik, Deputy Governor responsible for markets and banking
Kristin Forbes
Andrew Haldane
Ian McCafferty
David Miles
Martin Weale

The *Inflation Report* is available in PDF alongside PowerPoint™ versions of the charts and Excel spreadsheets of the data underlying most of them at
www.bankofengland.co.uk/publications/Pages/inflationreport/2015/aug.aspx.

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Monetary policy summary

The Bank of England's Monetary Policy Committee (MPC) sets monetary policy in order to meet the 2% inflation target and in a way that helps to sustain growth and employment. At its meeting ending on 5 August 2015, the MPC voted by a majority of 8–1 to maintain Bank Rate at 0.5%. The Committee voted unanimously to maintain the stock of purchased assets financed by the issuance of central bank reserves at £375 billion, and so to reinvest the £16.9 billion of cash flows associated with the redemption of the September 2015 gilt held in the Asset Purchase Facility.

CPI inflation fell back to zero in June. As set out in the Governor's open letter to the Chancellor, around three quarters of the deviation of inflation from the 2% target, or 1½ percentage points, reflects unusually low contributions from energy, food, and other imported goods prices. The remaining quarter of the deviation of inflation from target, or ½ a percentage point, reflects the past weakness of domestic cost growth, and unit labour costs in particular. The combined weakness in domestic costs and imported goods prices is evident in subdued core inflation, which on most measures is currently around 1% (Section 4).

With some underutilised resources remaining in the economy and with inflation below the target, the Committee intends to set monetary policy in order to ensure that growth is sufficient to absorb the remaining economic slack so as to return inflation to the target within two years. Conditional upon Bank Rate following the gently rising path implied by market yields, the Committee judges that this is likely to be achieved.

In its latest economic projections, the Committee projects UK-weighted world demand to expand at a moderate pace (Section 1). Growth in advanced economies is expected to be a touch faster, and growth in emerging economies a little slower, than in the past few years. The support to UK exports from steady global demand growth is expected to be counterbalanced, however, by the effect of the past appreciation of sterling. Risks to global growth are judged to be skewed moderately to the downside reflecting, for example, risks to activity in the euro area and China.

Private domestic demand growth in the United Kingdom is expected to remain robust (Section 2). Household spending has been supported by the boost to real incomes from lower food and energy prices. Wage growth has picked up as the labour market has tightened and productivity has strengthened. Business and consumer confidence remain high, while credit conditions have continued to improve, with historically low mortgage rates providing support to activity in the housing market. Business investment has made a substantial contribution to growth in recent years. Firms have invested to expand capacity, supported by accommodative financial conditions. Despite weakening slightly, surveys suggest continued robust investment growth ahead. This will support the continuing increase of underlying productivity growth towards past average rates.

Robust private domestic demand is expected to produce sufficient momentum to eliminate the margin of spare capacity over the next year or so, despite the continuing fiscal consolidation and modest global growth. This is judged likely to generate the rise in domestic costs expected to be necessary to return inflation to the target in the medium term.

The near-term outlook for inflation is muted (Section 4). The falls in energy prices of the past few months will continue to bear down on inflation at least until the middle of next year. Nonetheless, a range of measures suggest that medium-term inflation expectations remain well anchored. There is little evidence in wage settlements or spending patterns of any deflationary mindset among businesses and households.

Sterling has appreciated by 3½% since May and 20% since its trough in March 2013. The drag on import prices from this appreciation will continue to push down on inflation for some time to come, posing a downside risk to its path in the near term. Set against that, the degree of slack in the economy has diminished substantially over the past two and a half years. The unemployment rate has fallen by more than 2 percentage points since the middle of 2013, and the ratio of job vacancies to unemployment has returned from well below to around its pre-crisis average. The margin of spare capacity is currently judged to be around ½% of GDP, with a range of views among MPC members around that central estimate. A further modest tightening of the labour market is expected, supporting a continued firming in the growth of wages and unit labour costs over the next three years, counterbalancing the drag on inflation from sterling.

Were Bank Rate to follow the gently rising path implied by market yields, the Committee judges that demand growth would be sufficient to return inflation to the target within two years. In its projections, inflation then moves slightly above the target in the third year of the forecast period as sustained growth leads to a degree of excess demand.

Underlying those projections are significant judgements in a number of areas (Section 5). In any one of these areas, developments might easily turn out differently than assumed with implications for the outlook for growth and inflation, and therefore for the appropriate stance of monetary policy. Reflecting that, there is a spread of views among MPC members about the balance of risks to inflation relative to the best collective judgement presented in Section 5. At the Committee's meeting ending on 5 August, the majority of MPC members judged it appropriate to leave the stance of monetary policy unchanged at present. Ian McCafferty preferred to increase Bank Rate by 25 basis points, given his view that demand growth and wage pressures were likely to be greater, and the margin of spare capacity smaller, than embodied in the Committee's collective August projections.

All members agree that, given the likely persistence of the headwinds weighing on the economy, when Bank Rate does begin to rise, it is expected to do so more gradually and to a lower level than in recent cycles. This guidance is an expectation, not a promise. The actual path Bank Rate will follow over the next few years will depend on the economic circumstances. The Committee will continue to monitor closely the incoming data.

1 Global economic and financial developments

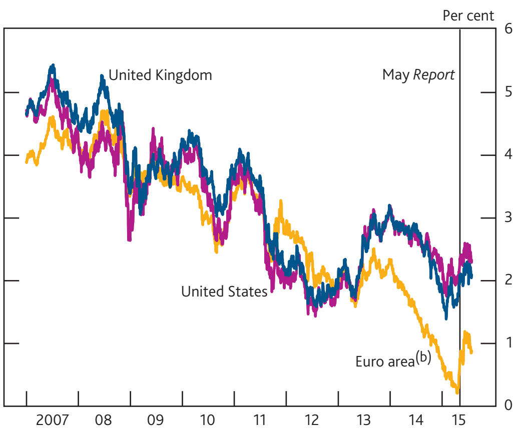
UK-weighted world GDP growth slowed in Q1, but is likely to have risen in Q2. Further ahead, global growth is expected to be slightly weaker than projected in May, reflecting developments in Greece and China. Dollar oil prices have fallen by 12% since the May *Report*. Financial market prices implied a slightly faster pace of Bank Rate rises than in May, although the pace of increases remains gradual. UK long-term interest rates also rose, along with those in other advanced economies. The sterling ERI rose further.

Table 1.A Monitoring the MPC's key judgements

Developments anticipated in May	Developments since May
Advanced economies	**Broadly on track**
• Average quarterly euro-area growth of around ½%; inflation to pick up slowly but remain low.	• Euro-area GDP rose by 0.4% in Q1. Headline inflation was 0.2% in July, according to the flash estimate.
• Average quarterly US GDP growth of a little below ¾%; non-farm payrolls to increase by around 250,000 a month.	• US GDP rose by 0.6% in Q2. Non-farm payrolls rose by a monthly average of around 220,000 in Q2.
Rest of the world	**Broadly on track**
• Average four-quarter PPP-weighted emerging-economy growth of around 4¼% on average; Chinese GDP growth to average a little below 7%.	• Emerging-economy GDP growth was 4.3% in Q1. Chinese GDP growth was 7.0% in Q2.
The exchange rate and commodity prices	**Oil prices lower; sterling higher**
• Commodity prices and sterling ERI to evolve in line with the conditioning assumptions.	• US dollar oil prices are around 12% lower. Sterling appreciated by 3½%.

Chart 1.1 Long-term interest rates have risen since late April

International ten-year government bond yields(a)



Sources: Bloomberg and Bank calculations.

(a) Zero-coupon yields on ten-year benchmark government bonds.
(b) An estimate based on French and German government bonds.

International economic and financial developments play a key role in shaping UK economic conditions. Global demand and cost pressures (Section 1.1) directly affect the quantities and prices of UK exports and imports. UK asset prices and the exchange rate are heavily influenced by developments in other advanced economies. Events abroad can also influence UK households' and businesses' uncertainty around the economic outlook, and therefore their spending decisions.

Since the spring, the market-implied paths for policy rates in the United Kingdom, United States and the euro area have steepened (Section 1.2); long-term interest rates are also higher (**Chart 1.1**). These developments are likely in part to reflect reduced perceptions of downside risks to global growth and inflation. There were some fluctuations in asset prices in July (Section 1.3), particularly in the euro area, which are likely to have reflected uncertainty surrounding negotiations between Greece and its creditors. The sterling exchange rate index (ERI) has appreciated by 3½% since the run-up to the May *Report*.

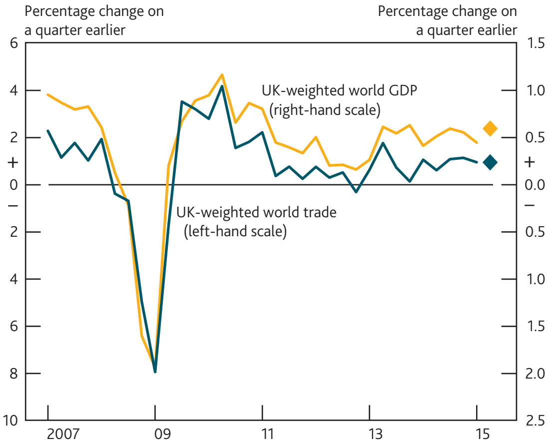
1.1 Global economic developments

UK-weighted world GDP growth slowed to 0.4% in 2015 Q1, slightly lower than had been expected in the May *Report*. That slowing was associated with a moderation in UK-weighted world trade growth (**Chart 1.2**), which in turn is likely to have weighed on UK export growth (Section 2).

The reasons for the global slowing are unclear, with the pattern of growth mixed across countries. US output growth was subdued in Q1, and emerging-economy growth continued to slow. In contrast, growth in the euro area was broadly flat on the quarter, and Japanese GDP growth rose sharply (**Table 1.B**). Partly reflecting a modest rebound in US output growth, UK-weighted world GDP growth probably picked up in Q2 to around 0.6%. Further out, growth is projected to remain solid, supported by policy stimulus and the boost to

Chart 1.2 World GDP growth slowed in Q1 but is likely to have picked up in Q2

UK-weighted world GDP and world trade(a)



Sources: IMF *World Economic Outlook* (*WEO*) *Update* July 2015, OECD, Thomson Reuters Datastream and Bank calculations.

(a) Constructed using data for real GDP growth rates and import volumes of 146 countries weighted according to their shares in UK exports. For the vast majority of countries, the latest observation is 2015 Q1. For those countries where data for 2015 Q1 are not yet available, data are assumed to be consistent with projections in the IMF *WEO Update* July 2015. The diamonds show Bank staff's projections for 2015 Q2.

Table 1.B Mixed pattern of GDP growth across countries in Q1

GDP in selected countries and regions(a)

Percentage changes on a quarter earlier, annualised

	Averages					2015	
	1998–2007	2012	2013	2014 H1	2014 H2	Q1	Q2
United Kingdom	3.0	0.4	2.4	3.6	3.1	1.5	2.8
Euro area (39%)	2.3	-0.9	0.5	0.7	1.1	1.5	n.a.
United States (18%)	3.0	1.3	2.5	1.8	3.2	0.6	2.3
China (3%)(b)	10.0	7.7	7.7	7.5	7.3	7.0	7.0
Japan (2%)	1.1	0.0	2.3	-1.2	-0.4	3.9	n.a.
UK-weighted world GDP(c)	3.0	1.1	2.1	1.9	2.3	1.8	n.a.

Sources: Eurostat, IMF *WEO Update* July 2015, Japanese Cabinet Office, National Bureau of Statistics of China, ONS, US Bureau of Economic Analysis and Bank calculations.

(a) Real GDP measures. Figures in parentheses are shares in UK goods and services exports in 2013 from the 2014 *Pink Book*.
(b) Chinese data are four-quarter growth. The earliest observation for China is 2000 Q1.
(c) Constructed as in **Chart 1.2**, footnote (a).

Table 1.C Inflation rates are low across countries

Inflation rates in selected countries and regions

Percentage changes on a year earlier

	Monthly averages			2015			
	1998–2007	2014	2015 Q1	April	May	June	July
Headline consumer price inflation							
United Kingdom	1.6	1.5	0.1	-0.1	0.1	0.0	n.a.
Euro area(a)	2.0	0.4	-0.3	0.0	0.3	0.2	0.2
United States(b)	2.0	1.4	0.2	0.1	0.2	0.3	n.a.
UK-weighted world CPI(c)	2.0	1.0	0.1	n.a.	n.a.	n.a.	n.a.
Core consumer price inflation(d)							
United Kingdom	1.2	1.6	1.2	0.8	0.9	0.8	n.a.
Euro area(a)	1.6	0.8	0.6	0.6	0.9	0.8	1.0
United States(b)	1.8	1.5	1.3	1.3	1.3	1.3	n.a.

Sources: Eurostat, IMF *WEO Update* July 2015, ONS, Thomson Reuters Datastream, US Bureau of Economic Analysis and Bank calculations.

(a) Data point for July 2015 is a flash estimate.
(b) Personal consumption expenditure price index inflation. Data point for June 2015 is a preliminary estimate.
(c) Constructed using data for inflation rates of 51 countries weighted according to their shares in UK exports. For the vast majority of countries, the latest observation is 2015 Q1. For those countries where data for 2015 Q1 are not yet available, data are assumed to be consistent with projections in the IMF *WEO Update* July 2015.
(d) For the euro area and the United Kingdom, excludes energy, food, alcoholic beverages and tobacco. For the United States, excludes food and energy.

the real incomes of oil consumers from lower oil prices (Section 5). But the projection is slightly weaker than in May, reflecting developments in Greece and China.

Euro area

Economic conditions in the euro area have improved following several years of sluggish growth. GDP rose by 0.4% in Q1, as expected in May. Activity indicators, such as the PMI surveys, suggest a similar pace of growth in Q2. The pickup in euro-area GDP growth has been underpinned by household consumption, which has risen broadly in line with real incomes. That is likely to reflect, in part, the boost from lower oil prices.

Inflation has been low, largely reflecting the fall in oil prices, although it ticked up in Q2 (**Table 1.C**). Inflation is expected to remain subdued before beginning to rise towards the end of the year, as the effects of the oil price fall begin to drop out of the annual rate. Core inflation — which excludes food and energy — also rose a little, but remains subdued. That is likely to reflect significant spare capacity in the region: unemployment rates remain elevated, particularly in periphery countries.

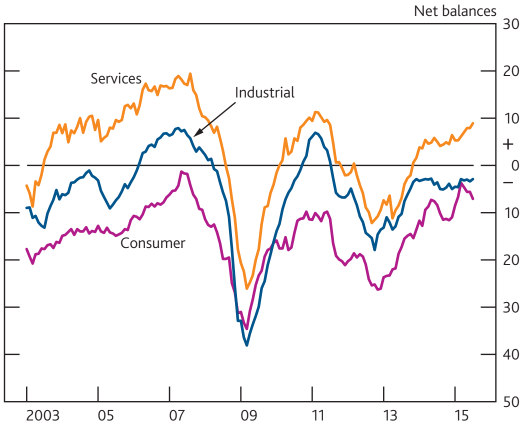
The outlook for the remainder of the year is uncertain, and is likely to be sensitive to developments in Greece. Negotiations between the Greek government and its creditors stalled in late June, after which capital controls were imposed in Greece. Talks over a new programme are now under way. But the imposition of capital controls, together with the further economic adjustment that is required in coming years, is likely to weigh significantly on economic activity in Greece over the forecast period (Section 5).

The broader financial market reaction to events in Greece has been limited and much smaller than in 2011–12, when market concerns about sovereign debt positions intensified sharply (Section 1.3). That limited effect is likely to reflect market participants' confidence in the ability of policymakers either to bring the negotiations to a successful conclusion, or to limit the contagion to other economies. Some timely activity indicators, such as the PMIs and consumer confidence (**Chart 1.3**), softened slightly in July. That could reflect the impact of uncertainty around Greek debt negotiations on broader euro-area sentiment; but this impact is expected to unwind, particularly if negotiations proceed relatively smoothly.

Overall, Bank staff expect euro-area growth to continue to recover gradually, supported by European Central Bank (ECB) asset purchases, the boost from lower oil prices and further improvements in credit conditions. But growth is nonetheless expected to be slightly weaker than projected in May, largely on account of downward revisions to activity in Greece. Although Greek debt negotiations have now resumed,

Chart 1.3 Euro-area consumer confidence fell slightly in July

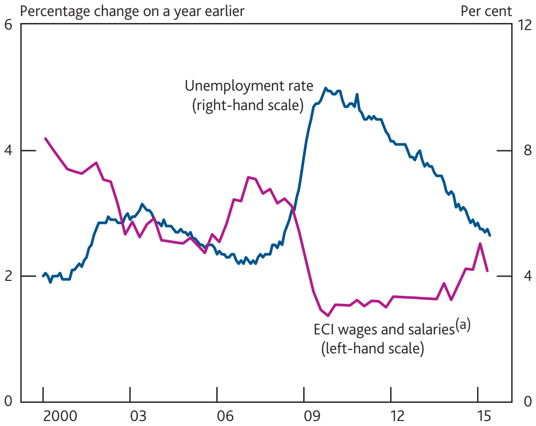
Euro-area consumer and business confidence measures



Source: European Commission.

Chart 1.4 Some pickup in US wage growth over the past year following falls in the unemployment rate

US wage growth and unemployment rate



Source: Bureau of Labor Statistics.

(a) Employment Cost Index measure of wages and salaries for civilian workers.

agreeing and implementing a sustainable solution will be challenging, and a disorderly outcome cannot be ruled out (Section 5). More generally, countries continue to face the challenges of improving competitiveness and reducing debt positions at a time when nominal income growth remains relatively subdued.

United States

Quarterly GDP growth in the United States recovered to 0.6% in Q2, following upwardly revised growth of 0.2% in Q1. In part, the pickup in Q2 reflected an unwinding of erratic factors, such as severe winter weather, that had depressed growth in Q1. Following weakness in Q1, household consumption growth was firmer in Q2, as some of the boost to real incomes from lower oil prices appears to have supported spending.

The labour market recovery continued: employment rose solidly in Q2, albeit slightly less than expected in May (**Table 1.A**). And the unemployment rate fell to 5.3% in June (**Chart 1.4**), only just above the Federal Open Market Committee's (FOMC's) central tendency of estimates of the unemployment rate in the longer run of 5.0% to 5.2%. This continued labour market tightening has, over the past year, been associated with some pickup in wage growth, following several years of sluggish growth. Inflation appears likely to rise from its current low level (**Table 1.C**), reflecting both that recovery in wage growth and the effects of the fall in oil prices starting to drop out of the annual rate. Financial market prices imply a rise in the federal funds rate around the turn of the year (Section 1.2).

Labour productivity is likely to have risen slightly in Q2, following a contraction in Q1. Bank staff project a continued recovery in productivity, which should support wage and consumption growth over the forecast period. The 20% rise in the dollar ERI over the past year, however, is expected to drag on growth. Overall, GDP growth is projected to be slightly below its historical average rate over the rest of 2015 (Section 5).

Rest of the world

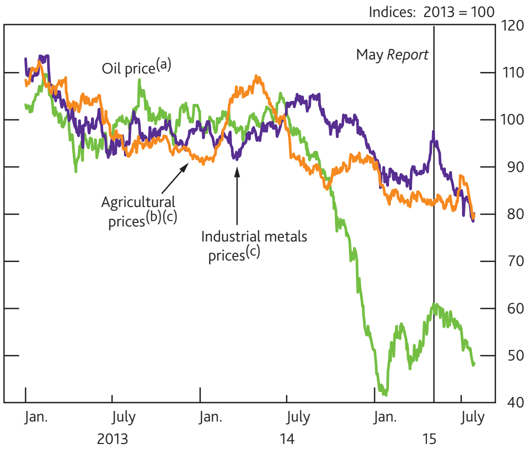
In Japan, GDP rose by 1% in Q1, much stronger than had been anticipated in the May *Report*. In part, that reflected robust business investment, but some of the strength reflected a rise in inventories, which is likely to unwind. The labour market has tightened over the past year and the unemployment rate was 3.4% in June.

In China, GDP growth has moderated in recent years, from pre-crisis rates of around 10%, partly reflecting the authorities' efforts to rebalance the economy towards household consumption. Annual GDP growth was 7.0% in Q2, unchanged from Q1 and slightly higher than expected in the May *Report* (**Table 1.B**). Monthly indicators such as retail sales and industrial production suggest that domestic demand growth picked up slightly in Q2. But annual export growth slowed, which may in part reflect the 13% rise in the renminbi ERI over the past year. In addition, equity prices have fallen by around 30% since mid-June, following an increase of around 150% in the preceding year (**Chart 1.11**). These developments prompted the authorities to cut benchmark lending rates and introduce measures to support equity prices.

Bank staff project calendar-year growth of slightly below 7% in 2015, broadly in line with the authorities' target, with past policy easing supporting growth in the second half of the year. Currency appreciation, however, is likely to continue to limit export growth. Recent developments in equity markets are expected to have only a small effect on confidence and private sector activity. But they highlight the potential risks to financial stability and growth, and the challenges policymakers face, as Chinese financial markets liberalise further.

The picture for activity in other emerging economies was mixed: output contracted in Brazil and Russia in Q1, while Indian growth was robust. Overall, emerging-economy growth is expected to remain below pre-crisis rates in 2015. There is a risk that a tightening in US monetary policy (Section 1.2) could weigh on activity in emerging economies if it is associated with large capital outflows and falls in asset prices. According to estimates from the Institute of International Finance, capital inflows to emerging economies slowed during 2015 Q2.

Chart 1.5 Oil and metal prices have fallen since May
US dollar oil and commodity prices



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

(a) US dollar Brent forward prices for delivery in 10–25 days' time.
(b) Total agricultural and livestock S&P commodity index.
(c) Calculated using S&P US dollar commodity price indices.

Commodity prices and global inflation

Following a sharp fall over the second half of 2014, and a pickup during the spring, the Brent crude spot oil price was US$55 in the run-up to the August *Report*, 12% lower than three months earlier (**Chart 1.5**). Some of the fall in oil prices could reflect lower expected oil demand. But some of the fall is likely to reflect higher expected oil supply. The International Energy Agency revised up its forecast for US oil supply in 2015 H2, as production has remained relatively robust despite the past fall in oil prices. And there are rising expectations that sanctions on Iranian oil exports will be lifted, following an agreement on Iran's nuclear programme.

The oil futures curve, on which the Monetary Policy Committee (MPC) conditions its forecast, reaches US$67 in three years' time. But there are risks around that path. In the near term, oil inventories, which are already at record highs, could rise by more than expected, further increasing the cost of storage. That could lead to falls in spot prices to make storage economical. In the medium term, the risks appear more balanced. On the one hand, falls in oil supply and extraction investment in response to the past fall in prices could place upward pressure on spot prices. On the other hand, oil demand growth could slow if downside risks to global growth materialise (Section 5), implying further downward pressure on oil prices.

Moves in the prices of non-energy commodities have been slightly mixed in recent months. Prices of industrial metals have fallen by around 12% since May (**Chart 1.5**). That may in part reflect concerns about the outlook for demand, but the fall is also likely to reflect a reduction in the supply concerns that, according to market contacts, pushed prices up earlier in the year. In contrast, agricultural commodity prices are at a similar level to May, having fallen in 2014. Overall, most energy and non-energy commodity prices are significantly below their levels a year ago.

Headline inflation rates are currently low relative to historical averages in many countries (**Table 1.C**). Much of this is likely to reflect the impact of the fall in commodity prices, particularly oil prices. Core inflation rates, however, are also relatively subdued in many advanced economies (**Table 1.C**). That may to some extent reflect indirect effects of lower commodity prices on the cost of producing goods and services. But in some countries it is likely to reflect continued slack, and in others stronger exchange rates.

Reflecting these global inflationary pressures, annual world export price inflation, weighted according to countries' shares in UK imports, was -1.1% in Q1. That, together with the continued appreciation in the sterling exchange rate (Section 1.3), is likely to continue to drag on UK import prices (Section 4).

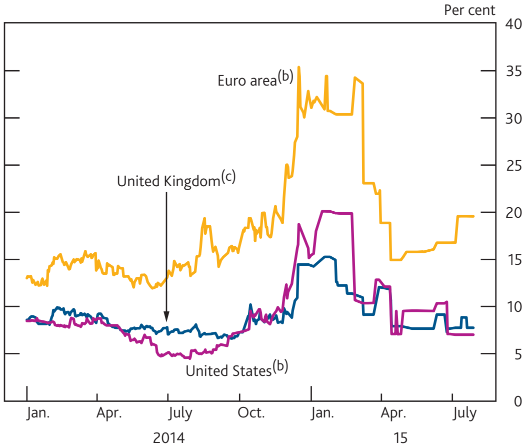
1.2 Monetary policy

UK, US and euro-area market-implied policy rates three years ahead were slightly higher in the run-up to the August *Report* than in May. There were some fluctuations in early July, probably reflecting shifting market sentiment about Greece. More broadly, market-implied rates have risen over much of 2015, reversing part of the falls seen in the second half of 2014. In part, that may have been driven by perceptions of a strengthening in the inflation outlook, reflecting tightening labour markets, the stabilisation in oil prices earlier in the year, and the expected impact of ECB asset purchases on the economic outlook. Indeed, the weight that market participants place on the probability of deflation in three years' time has fallen since the beginning of the year, particularly in the euro area (**Chart 1.6**).

In the United Kingdom, the path for Bank Rate implied by market prices reaches 1.7% in 2018 Q3, compared with 1.4% in May (**Chart 1.7**). Some of that steepening occurred following the release of stronger-than-expected wage growth data in June (Section 3). The implied rise in Bank Rate, however, remains particularly gradual compared with previous

Chart 1.6 Market perceptions of the risk of deflation lower than in early 2015

Option-implied weight on deflation three years ahead[a]

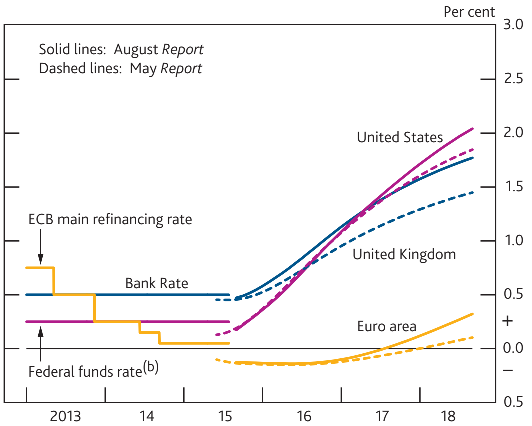


Sources: Bloomberg and Bank calculations.

(a) Weights are risk-neutral probabilities from estimated option-implied distributions. Such probabilities contain a compensation for risk, so will differ from market participants' actual subjective probabilities. For further discussion of option-implied probability distributions for inflation, see Smith, T (2012), 'Option-implied probability distributions for future inflation', *Bank of England Quarterly Bulletin*, Vol. 52, No. 3, pages 224–33; www.bankofengland.co.uk/publications/Documents/quarterlybulletin/qb120303.pdf.
(b) Shows the option-implied risk-neutral probability that consumer price inflation is less than 0% in three years' time.
(c) As a rough proxy for the weight on CPI inflation being less than 0% in three years' time, this shows the option-implied risk-neutral probability that RPI inflation is less than 1% in three years' time.

Chart 1.7 Market prices imply higher interest rates in three years' time than they did in May

International forward interest rates[a]



Sources: Bank of England, Bloomberg, ECB and Federal Reserve.

(a) The May 2015 and August 2015 curves are estimated using instantaneous forward overnight index swap rates in the fifteen working days to 7 May and 29 July respectively.
(b) Upper bound of the target range of 0% to 0.25%.

Table 1.D Government bond spreads in some periphery countries widened in early July, but have narrowed since
Selected European ten-year spot government bond spreads[a]

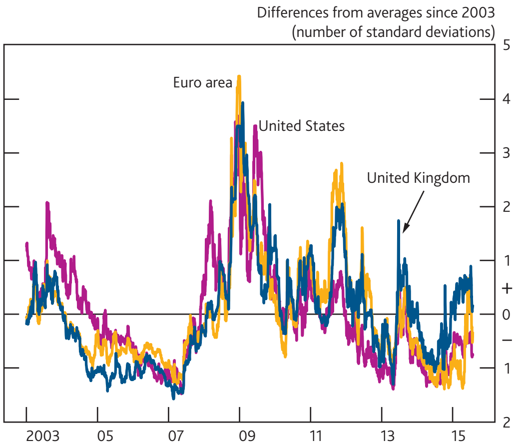
Percentage points

				Averages		
	2007	2010	2012	May 2015 *Report*[b]	29 June– 13 July 2015	August 2015 *Report*[c]
Ireland	n.a.	3.0	n.a.	0.6	0.8	0.7
Italy	0.3	1.3	3.9	1.3	1.5	1.2
Portugal	0.2	2.5	9.0	1.8	2.2	1.9
Spain	0.1	1.5	4.3	1.2	1.5	1.2

Sources: Bloomberg and Bank calculations.

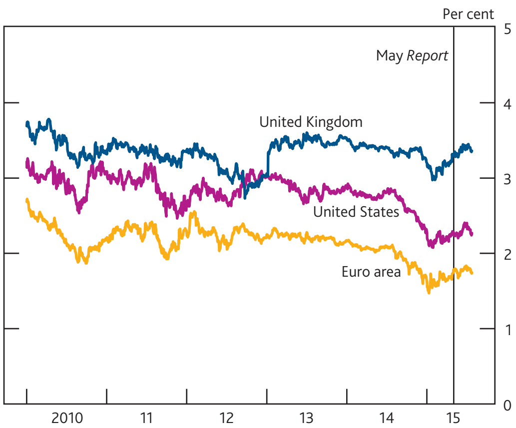
(a) Spreads over ten-year German government bond yield.
(b) Average of the fifteen working days to 7 May 2015.
(c) Average of the fifteen working days to 29 July 2015.

Chart 1.8 Long-term interest rate implied volatilities have picked up from low levels earlier in the year
Implied volatilities from three-month options on ten-year interest rate swaps



Sources: Barclays Live and Bank calculations.

Chart 1.9 Market-based measures of inflation expectations have risen since early 2015
Five-year, five-year forward implied inflation rates[a]



Sources: Bloomberg and Bank calculations.

(a) Five-year inflation swap rates, five years ahead. The instruments used are linked to RPI for the United Kingdom, CPI for the United States and HICP for the euro area.

tightening cycles.[1] The box on page 9 discusses the factors behind the MPC's decisions in June and July. The factors underpinning the Committee's August decision are set out in the Monetary policy summary on pages i–ii of this *Report*, and in more detail in the minutes of the meeting.[2]

In the United States, the FOMC reaffirmed its view that the target range for the federal funds rate of 0% to 0.25% remained appropriate. Market prices imply a rise in the federal funds rate around the turn of the year, with the market-implied path for rates reaching 2% in three years' time, slightly higher than in May (**Chart 1.7**).

The ECB continued to undertake asset purchases of €60 billion per month. The path of market-implied interest rates in the euro area reaches 0.3% in three years' time, compared to 0.1% in May.

The Bank of Japan also continued its asset purchase programme, which involves annual purchases of ¥80 trillion of government bonds, ¥3 trillion of exchange-traded funds and ¥90 billion of real estate investment trusts.

1.3 Developments in other financial markets

Government bond markets

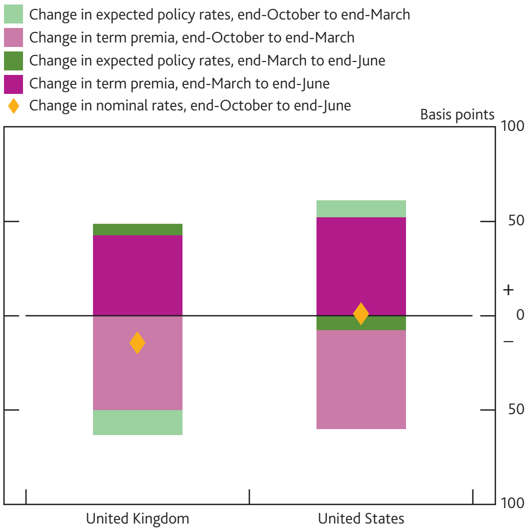
There have been marked fluctuations in long-term interest rates in recent months, particularly in the euro area. In part, that reflected shifting market sentiment about Greece during the breakdown and resumption of negotiations with its creditors in June and July. Spreads between other euro-area periphery countries' government bond yields and German yields widened a little in early July. But those increases have largely unwound, and these spreads remain significantly below levels seen in 2012, when the euro-area sovereign debt crisis intensified (**Table 1.D**). Implied interest rate volatilities — which gauge financial market uncertainty — rose close to average levels in the major economies, although they too have since fallen back and remain well below levels seen in 2011–12 (**Chart 1.8**).

On the whole, UK, US and euro-area long-term interest rates have risen from their troughs earlier in the year (**Chart 1.1**). In the run-up to the August *Report*, the nominal cost of government borrowing for the next ten years was around ½ a percentage point higher in the United Kingdom and the United States, and ¾ of a percentage point higher in the euro area, than in late April. Despite these recent rises, however, long-term interest rates are only back to levels seen in late 2014, and remain substantially below their levels immediately prior to the crisis.

(1) For further discussion see pages 9–10 of the May 2015 *Inflation Report*; www.bankofengland.co.uk/publications/Documents/inflationreport/2015/may.pdf.
(2) The minutes are available at www.bankofengland.co.uk/publications/minutes/Documents/mpc/pdf/2015/aug.pdf.

Chart 1.10 Much of the previous falls in US and UK term premia has unwound in recent months

Estimates of contributions to changes in ten-year government bond yields between end-October 2014 and end-June 2015[(a)]

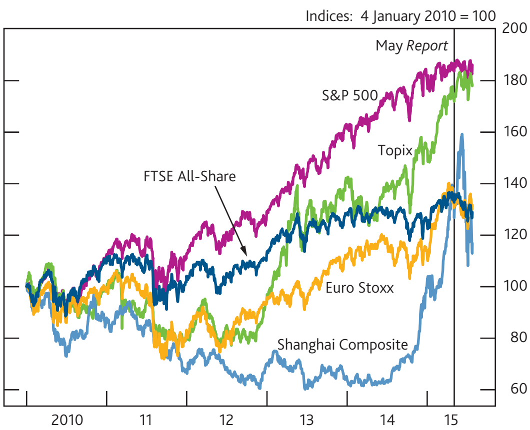


Sources: Bloomberg, Federal Reserve Bank of New York and Bank calculations.

(a) Total change in monthly model-fitted values of nominal yields. UK estimates are derived using the model described in Malik, S and Meldrum, A (2014), 'Evaluating the robustness of UK term structure decompositions using linear regression methods', *Bank of England Working Paper No. 518*; www.bankofengland.co.uk/research/Documents/workingpapers/2014/wp518.pdf. US estimates are available from www.newyorkfed.org/research/data_indicators/term_premia.html.

Chart 1.11 Euro-area and UK equity prices slightly lower than in May

International equity prices[(a)]



Source: Thomson Reuters Datastream.

(a) In local currency terms.

Part of the recent rise in long-term interest rates is likely to reflect an unwinding of some of the early market reaction to the ECB asset purchase programme. Government bond yields in the euro area fell substantially in anticipation of the programme, and dropped further in response to the announcement of its operational details in March. In April, however, low demand at some euro-area government bond auctions and a reassessment of the balance between supply and demand in the government bond market appear to have led to an unwinding of some of that initial market reaction. Both the initial fall, and the subsequent rise, may have been amplified by low market liquidity, as discussed in the July 2015 *Financial Stability Report*. Long-term interest rates in the United Kingdom and United States have moved closely with those in Germany and France (**Chart 1.1**), in part because investors tend to see those bonds as close substitutes for each other.

Another driver of the recent rise is likely to have been improvements in perceptions of the macroeconomic outlook in advanced economies. Near-term policy expectations have risen in the United Kingdom, United States and the euro area (Section 1.2), although these can only account for part of the rise in long-term interest rates. The implicit cost of government borrowing for five years in five years' time — the five-year, five-year forward rate — has also risen in those economies. That could reflect a reduction in perceived downside risks around the long-term outlook for growth and inflation. Indeed, implied inflation rates at this horizon have risen since early 2015, reversing some of the falls in 2014 (**Chart 1.9**).

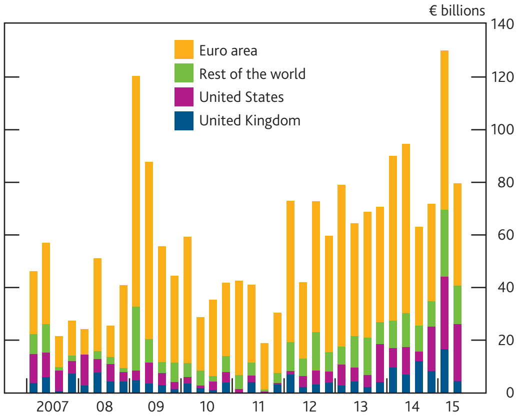
Most of the rise in UK and US yields between April and June reflected a rise in term premia — the compensation that investors require for risks associated with holding government bonds, and which will reflect shifts in the relative supply of bonds — rather than policy expectations (**Chart 1.10**). That is consistent with the recent rise in government bond yields reflecting some unwinding of the early market reaction to ECB asset purchases, and could also suggest a reduction in perceived downside risks to the macroeconomic outlook.

Equity markets

Moves in advanced-economy equity prices have been mixed in recent months, with some fluctuations in June and July related to developments in Greek debt negotiations (**Chart 1.11**). Overall, UK and euro-area equity prices have fallen by around 4% and 2% respectively since the May *Report*, while US equity prices were broadly unchanged. The greater decline in the United Kingdom was driven by falls in share prices for the oil and gas sector, which accounts for a higher proportion of the equity price index in the United Kingdom than is typical in other countries, following the recent decline in oil prices (Section 1.1).

Chart 1.12 UK and US corporates' share of euro-denominated bond issuance has risen

Euro-denominated non-financial corporate bond issuance[(a)]

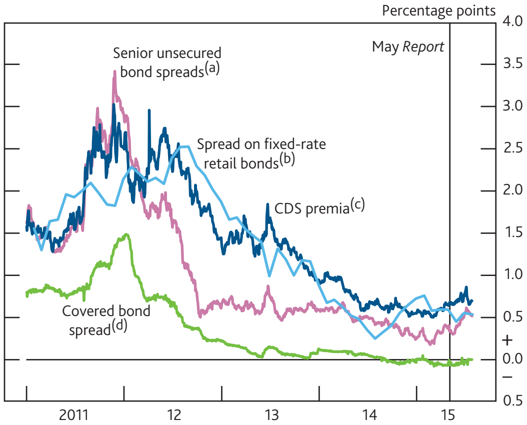


Source: Dealogic.

(a) Shows gross bond issuance by non-financial corporates. Includes issuance by financial subsidiaries of non-financial corporates, and state-owned companies. Non seasonally adjusted.

Chart 1.13 Bank funding spreads have risen but remain at low levels

UK banks' indicative long-term funding spreads

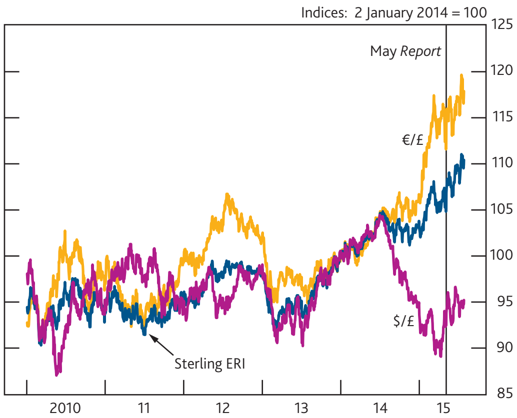


Sources: Bank of England, Bloomberg, Markit Group Limited and Bank calculations.

(a) Constant-maturity unweighted average of secondary market spreads to mid-swaps for the major UK lenders' five-year euro senior unsecured bonds or a suitable proxy when unavailable.
(b) Unweighted average of spreads for two-year and three-year sterling fixed-rate retail bonds over equivalent-maturity swaps. Bond rates are end-month rates and swap rates are monthly averages of daily rates. Bond rates data for July are flash estimates.
(c) Unweighted average of the five-year senior CDS premia for the major UK lenders.
(d) Constant-maturity unweighted average of secondary market spreads to swaps for the major UK lenders' five-year euro-denominated covered bonds or a suitable proxy.

Chart 1.14 Sterling ERI higher, reflecting appreciation against the dollar and the euro

Sterling exchange rates



Financial and non-financial corporate bond markets

Bond yields for non-financial investment-grade companies in the United Kingdom, United States and euro area have risen since April. In the United Kingdom, for example, yields on those bonds with a maturity of five to ten years have risen by ½ a percentage point on average. That rise largely reflected the pickup in government bond yields over the period, although corporate bond spreads — the additional compensation that investors require for holding corporate bonds instead of government bonds — were also wider. Some of the widening in spreads is likely to have reflected the impact of greater uncertainty around how Greek debt negotiations would be resolved. Interest rates on corporate bonds nevertheless remain low relative to pre-crisis levels, with rates particularly low in the euro area. Those relatively low euro-area rates may be one reason why UK and US corporates' share of euro-denominated issuance has been higher in recent quarters than in the first half of 2014 (**Chart 1.12**).

The interest rates at which euro-area and UK banks can raise wholesale funds also rose in the run-up to the August *Report*. In part, that reflected the rise in government bond and other reference rates. But there was also a small rise in the spreads banks pay over and above these (**Chart 1.13** shows that for UK banks). As noted in the 2015 Q2 *Credit Conditions Review*, some major UK lenders attributed the slight widening in spreads in Q2, in part, to risks in relation to Greece. Overall, however, bank funding costs remain at levels significantly below those seen in 2011 and 2012; and credit conditions more generally are considerably looser than at that time (Section 2).

Exchange rates

The sterling ERI was 3½% higher in the fifteen working days to 29 July than in the run-up to the May *Report*, with rises against the US dollar and the euro (**Chart 1.14**). Some of the rise took place immediately following the general election in May; according to market contacts, the unexpectedly clear result removed some near-term political uncertainty that had been weighing on sterling. But market contacts also attributed some of the rise to the release of stronger-than-expected wage growth figures in June, and which was associated with a rise in short-term interest rates (Section 1.2). The dollar ERI continued to appreciate, rising by 2.5% since the May *Report*, while the euro ERI was little changed.

The continued rise in sterling, which is now 20% higher than its trough in March 2013, is likely to affect the outlook for UK exports (Section 2) and the price of imported goods (Section 4).

Monetary policy since the May *Report*

The MPC's central projection in the May *Report*, under the assumptions that Bank Rate followed a path implied by market interest rates and that the stock of purchased assets remained at £375 billion, was that four-quarter GDP growth would be at or a little below its historical average rate throughout the forecast period. Inflation was expected to remain close to zero in the very near term, returning to the 2% target by the two-year point, and moving slightly above the target in the third year of the forecast period.

At the MPC's meeting ending 3 June, the Committee noted that there had been relatively little news in the economic data since the publication of the May *Report*. As expected, twelve-month CPI inflation had declined to -0.1% in April, primarily reflecting the effect on recorded airfares of the timing of the Easter holidays. That effect would disappear from the inflation calculation in the May data.

There had also been little in the data to challenge the view that wage growth would pick up over the coming quarters, reflecting a further narrowing in the margin of slack in the labour market and a gradual recovery in productivity. There remained, however, a range of factors that would influence the path of wage growth, and therefore inflationary pressure over the medium term, including: the potential influence of the current period of near-zero inflation, whether productivity growth would pick up, and whether the pace of the decline in unemployment would slow as anticipated.

Committee members' views of the appropriate stance of monetary policy had not changed materially on the month, given the limited amount of news, and all members agreed to leave the policy stance unchanged. For two members, the immediate policy decision remained finely balanced between voting to hold or raise Bank Rate.

By the time of the MPC meeting ending 8 July, the near-term global outlook was being overshadowed by developments in Greece and in China, and it was here that the Committee focused the bulk of their discussions. Following developments in Greece, Greek asset prices had fallen, but there had been few signs of material spillovers to other major financial markets and the United Kingdom and only limited spillovers to other euro-area economies. In China, the slowing growth of activity had been accompanied by sharp swings in asset prices. The authorities had announced a number of supportive measures during the month although it was as yet unclear what impact these would prove to have.

Domestically, developments had been more positive. There had been upward revisions to GDP growth and evidence of relatively robust private sector spending and sentiment. Wage growth had surprised to the upside in the April data, although most of that news had been a result of the unexpected strength of bonus payments, and so there were questions as to how far this represented a durable rise in pay growth.

As expected, twelve-month CPI inflation had increased a little to 0.1% in May, and fallen back to 0.0% in June. As had been the case for several months, the inflation rate was expected to remain around zero before picking up notably towards the end of the year as the impact of the declines in oil and other commodity prices during the second half of 2014 dropped out of the annual comparison. The evolution of domestic costs, such as wages, and how they would be balanced alongside any persistent influence of external price pressures, would determine the outlook for inflation in the medium term. Overall, Committee members agreed that the margin of spare capacity had continued to shrink, and that domestic cost pressures had increased.

Setting domestic developments against those in the external environment, all members thought it appropriate to leave the stance of monetary policy unchanged. For a number of members, however, the balance of risks to medium-term inflation relative to the 2% target was becoming more skewed to the upside at the current level of Bank Rate. For these members, the uncertainty caused by recent developments in Greece was a very material factor in their decisions: absent that uncertainty, the decision between holding Bank Rate at its current level versus a small increase was becoming more finely balanced.

The policy decision at the meeting ending on 5 August, and the factors behind that decision, are set out in the Monetary policy summary on pages i–ii of this *Report*, and in more detail in the minutes of the meeting.(1)

(1) The minutes are available at www.bankofengland.co.uk/publications/minutes/Documents/mpc/pdf/2015/aug.pdf.

2 Demand and output

UK GDP growth bounced back to 0.7% in Q2, following weakness in Q1. The increase in aggregate demand continues to be accounted for by rising domestic expenditure. Consumption growth was robust in Q1, supported by rising real incomes and easing credit conditions. Business investment also rose. The current account deficit remained wide at 5.8% of GDP in Q1, but within that the trade deficit has been narrowing. In the near term, GDP is expected to continue growing at around its historical average rate.

Table 2.A Monitoring the MPC's key judgements

Developments anticipated in May	Developments since May
Cost of credit	**Broadly in line with expectations**
• Credit spreads to decline slightly over 2015.	• Credit spreads narrowed in Q2.
Consumer spending	**Spending stronger; saving lower**
• Quarterly consumer spending growth of around ¾%.	• Rose by 0.9% in Q1, and expected to remain above ¾% for the rest of 2015.
• Broadly flat household saving ratio.	• The saving ratio fell in Q1.
Housing market	**Stronger than expected**
• Mortgage approvals to average 65,000 per month in 2015 Q4.	• Approvals averaged 66,000 a month in Q2.
• House prices to increase by just under ½% per month in H2.	• Average of Halifax and Nationwide indices rose by ¾% per month in Q2. Similar rise expected in Q3.
• Quarterly housing investment growth to average ¾%.	• Housing investment rose by 2.4% in Q1, outlook a little stronger.
Investment	**Stronger than expected**
• Quarterly business investment growth of around 1¼%.	• Rose by 2.0% in Q1, although initial estimates are uncertain. Expected to rise by 1¼% per quarter over remainder of 2015.
Exports	**Weaker than expected in Q1**
• Average quarterly growth in UK exports of around 1%.	• Exports little changed in Q1, but level higher than expected in April and May.

GDP has continued to grow at a rate close to its pre-crisis average over the past couple of years. The preliminary estimate for Q2 GDP growth was 0.7%. The mature estimate is also expected to be 0.7% following a dip to 0.5% in Q1 (**Chart 2.1**). In the near term, GDP growth is expected to continue at a solid pace, accounted for by increases in service sector output. The projection for the mature estimate of GDP growth in Q3 is 0.7% (**Chart 2.1**).

The composition of demand growth (**Table 2.B**) reflects the relative strength of different factors affecting the UK economy. UK export growth has been dampened by weak growth among the United Kingdom's main trading partners. And the Government's fiscal consolidation will have weighed on growth domestically (see the box on page 16). Acting against these, private domestic demand has been supported by healthy growth in household real income, past falls in households' and businesses' uncertainty about the outlook, and improvements in credit conditions since 2013.

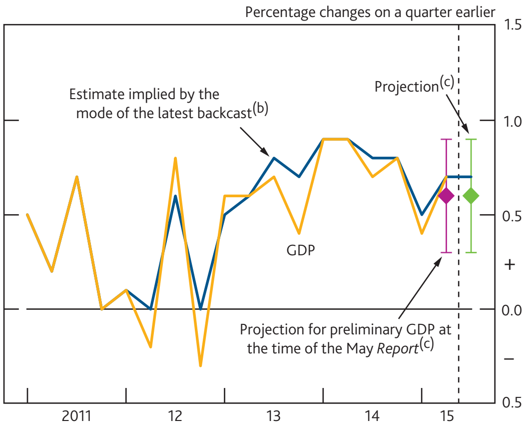
2.1 Final demand

Household consumption

In 2015 Q1, household consumption grew by 0.9%, in line with its pre-crisis average rate, but stronger than anticipated at the time of the May *Report* (**Table 2.B**).

Increases in nominal income, reflecting growth in both employment and wages, have supported household consumption. Employment growth has been robust over the past couple of years (Section 3). And average employee wages rose by 2.8% in the year to 2015 Q1, according to National Accounts data. The NMG Consulting survey, conducted on behalf of the Bank in late April and early May, also shows that a greater proportion of households are expecting further increases in their incomes than in the surveys conducted in early and late 2014. Furthermore, the GfK measure of consumer confidence remains around its recent high and above its pre-crisis average level.

Chart 2.1 GDP growth bounced back in Q2
Bank staff projections for near-term output growth[(a)]



Sources: ONS and Bank calculations.

(a) Chained-volume measures. GDP is at market prices.
(b) The latest backcast, shown to the left of the vertical line, is a judgement about the path for GDP in the mature estimate of the data. The observation for 2015 Q3, to the right of the vertical line, is consistent with the MPC's central projection.
(c) The magenta diamond shows Bank staff's central projection for the preliminary estimate of GDP growth for Q2 at the time of the May *Report*. The green diamond shows the current projection for the preliminary estimate of GDP growth in Q3. The bands either side of the diamonds show uncertainty around those projections based on one root mean squared error of forecasts for quarterly GDP growth made since 2004.

Table 2.B Private domestic demand growth has been robust
Expenditure components of demand[(a)]

Percentage changes on a quarter earlier

	Averages						
	1998–2007	2008–09	2010–12	2013	2014 H1	2014 H2	2015 Q1
Household consumption[(b)]	0.9	-0.6	0.1	0.5	0.7	0.8	0.9
Private sector investment	0.6	-3.8	1.3	2.0	3.1	0.2	2.1
of which, business investment[(c)]	*0.5*	*-1.9*	*1.5*	*1.7*	*2.5*	*0.0*	*2.0*
of which, private sector housing investment	*0.9*	*-8.1*	*1.4*	*2.8*	*4.5*	*0.8*	*2.4*
Private sector final domestic demand	**0.9**	**-1.2**	**0.4**	**0.7**	**1.2**	**0.6**	**1.3**
Government consumption and investment[(c)]	0.8	0.8	-0.1	0.0	0.5	0.6	1.0
Final domestic demand	**0.9**	**-0.7**	**0.3**	**0.5**	**1.0**	**0.6**	**1.2**
Change in inventories[(d)(e)]	0.0	0.1	0.0	0.3	-0.3	-0.1	0.7
Alignment adjustment[(e)]	0.0	-0.1	0.1	-0.1	0.0	0.3	-0.9
Domestic demand	**0.8**	**-0.7**	**0.3**	**0.7**	**0.7**	**0.7**	**1.0**
'Economic' exports[(f)]	1.2	-1.0	0.9	0.1	0.7	1.9	0.4
'Economic' imports[(f)]	1.4	-1.2	0.8	0.5	0.2	1.5	2.3
Net trade[(e)(f)]	**-0.1**	**0.1**	**0.0**	**-0.1**	**0.1**	**0.1**	**-0.6**
Real GDP at market prices	**0.7**	**-0.7**	**0.3**	**0.6**	**0.9**	**0.8**	**0.4**
Memo: nominal GDP at market prices	1.3	0.0	0.8	1.1	1.3	1.0	0.7

(a) Chained-volume measures unless otherwise stated.
(b) Includes non-profit institutions serving households.
(c) Investment data take account of the transfer of nuclear reactors from the public corporation sector to central government in 2005 Q2.
(d) Excludes the alignment adjustment.
(e) Percentage point contributions to quarterly growth of real GDP.
(f) Excluding the impact of missing trader intra-community (MTIC) fraud. Official MTIC-adjusted data are not available for exports, so the headline exports data have been adjusted by an amount equal to the ONS import adjustment.

Real income has also been boosted by the falls in food, energy and other import prices since Autumn 2014 (Section 4). The purchasing power of households' income has increased as a result of these price falls, and households appear to have increased their consumption in response: annual real consumption growth has picked up, while nominal consumption growth has remained broadly stable (**Chart 2.2**). Real retail sales, a more timely indicator of consumption, have continued to grow strongly, rising by 4.4% in the year to Q2. Past falls in oil prices are unlikely to provide much more of a boost to consumption growth. Although the fall in oil prices since May (Section 1) and continued pass through of lower import prices of other goods and services to consumer prices could support household real income and spending growth in coming quarters.

Another factor that will have supported overall consumption growth is the continued fall in retail interest rates. Household borrowing and deposit rates are significantly lower than in early 2013, and are now close to historically low levels (**Chart 2.3**). In June, the effective interest rate for time deposits was 1.6% while, according to the flash estimate, the average quoted interest rate for a £10,000 personal loan was 4.3% in July.[(1)] Falls in interest rates increase the incentive to consume rather than save. Reflecting that, non credit card unsecured borrowing growth has risen, to only a little below its pre-crisis average rate (**Chart 2.4**). Higher borrowing would be expected to be associated with stronger demand for durable goods in particular: in 2014 most unsecured lending was for car finance. The level of car purchases has remained strong, averaging around 100,000 per month since early 2014, above pre-crisis levels. The path for household interest rates will depend in part on banks' wholesale funding costs, which have risen slightly since the May *Report* (Section 1). These are likely to pass through to higher household interest rates over time, although any rise would be very small in comparison with the decline seen since 2013.

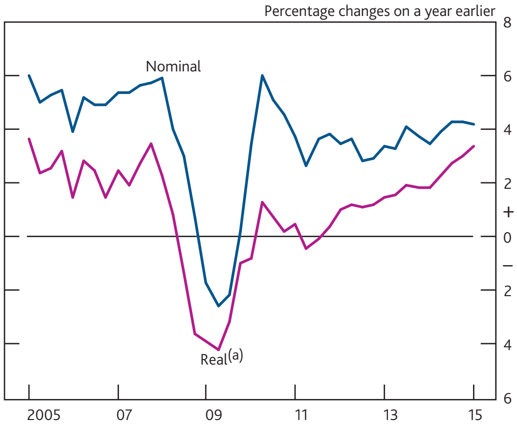
Consumption grew a little faster than income in Q1, so the household saving ratio fell (**Table 2.C**). Saving out of available income — which excludes income recorded as going directly into pension funds, and so is likely to be more closely related to consumption — was more stable, however, and has been around its current level since the start of 2014. Consumption growth is projected to average a little over ¾% a quarter during the remainder of 2015.

The housing market

Households' income expectations and credit conditions will also affect their decisions over whether to purchase a new home. In turn, demand for housing will affect the number of homes built and spending on home improvements. The revival

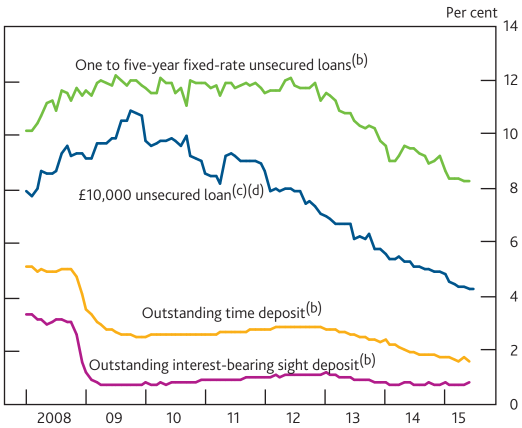
(1) The flash estimate for July of the quoted interest rate on a £10,000 unsecured loan is an early estimate of the provisional estimate, which will be published on 11 August.

Chart 2.2 Greater purchasing power has contributed to an increase in real consumption growth
Household consumption



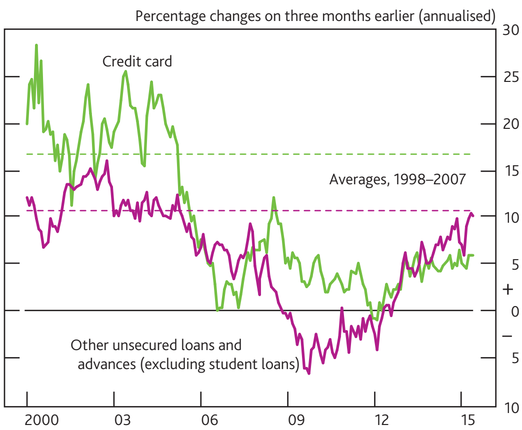
(a) Chained-volume measure.

Chart 2.3 Unsecured lending rates remain low
Household deposit and unsecured lending interest rates[(a)]



(a) Data are non seasonally adjusted.
(b) End-month effective rate. Data are to June.
(c) Sterling-only end-month average quoted rates. The Bank's quoted rates series are weighted averages of rates from a sample of banks and building societies with products meeting the specific criteria (see www.bankofengland.co.uk/statistics/Pages/iadb/notesiadb/household_int.aspx).
(d) The July £10,000 loan rate is a flash estimate of the provisional estimate which will be published on 11 August.

Chart 2.4 Non credit card unsecured lending growth close to past average rate
Unsecured loans to individuals



in consumer confidence and sharp falls in mortgage rates in the past few years, to historically low levels (**Chart 2.5**), would be expected to be associated with increased housing transactions and mortgage demand. Housing transactions and mortgage approvals have been relatively subdued compared with their pre-crisis levels (**Chart 2.6**), but are expected to rise over the forecast period (Section 5).

The weakness in housing transactions in part seems to reflect relatively few existing homeowners putting their homes up for sale. As discussed in previous *Reports*, for some homeowners this may be because the terms on a new mortgage would be more expensive than those on their existing mortgage. This would be especially true for those wanting to buy a more expensive property, because mortgages with a higher loan to value (LTV) ratio have higher rates than those with a lower LTV. Although the spread between these rates has narrowed somewhat over the past year, it remains wider than prior to the crisis, and may be restricting the ability of transaction chains to form.

Although supply remains weak, demand for house purchases may have begun to pick up. The new buyer enquiries balance from the Royal Institution of Chartered Surveyors survey has become more positive during 2015. Consistent with that reported rise in demand, mortgage approvals for house purchase increased in Q2 to 66,000 per month on average (**Chart 2.6**). That was slightly stronger than expected at the time of the May *Report*, although still well below expectations of a year ago.

It is unclear how much further, and how quickly, mortgage approvals will rise. The rise in approvals in Q2 was concentrated in April and, although the near-term outlook for approvals is stronger than at the time of the May *Report* — with 68,000 projected on average per month in Q3 — the changes announced in the *Summer Budget 2015* are likely to weigh on activity in the medium term. The announced reduction in mortgage interest tax relief for rental properties may reduce demand in the buy-to-let sector and associated mortgage lending. And the announced increase in the inheritance tax allowance for homeowners is likely to reduce the incentive for older homeowners to trade down, weighing on secondary market housing supply and the number of housing market transactions. Overall, the measures announced in the *Budget* are projected to weigh on mortgage approvals by around 2% in three years' time.

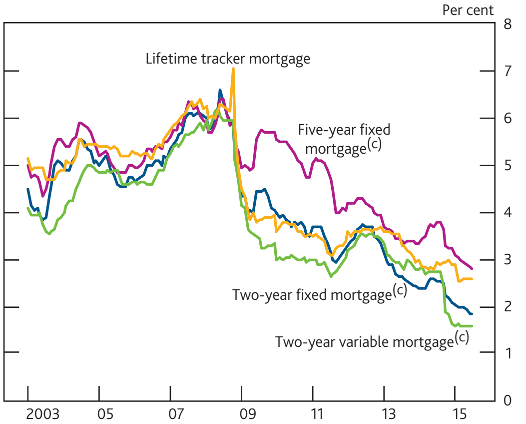
The balance between housing supply and demand may be putting upward pressure on house prices. In Q2, the average monthly rise in the Halifax and Nationwide house price indices was ¾%, a little stronger than expected at the time of the May *Report*. Leading indicators suggest that house prices will continue to rise at that pace in Q3.

Table 2.C Real income growth has been a key driver of consumption growth
Income, consumption and saving

	Averages					
	1998–2007	2010–12	2013	2014 H1	2014 H2	2015 Q1
Percentage changes on a year earlier						
Real post-tax income[a]	3.1	0.1	0.0	2.0	2.2	2.9
Real post-tax labour income[b]	3.2	-0.9	0.4	2.9	2.6	2.1
Consumption[c]	3.7	0.5	1.7	2.1	2.9	3.4
Per cent						
Saving ratio[d]	8.7	9.2	6.4	6.2	6.0	4.9
Saving out of available income[e]	-2.0	0.9	-0.5	-2.3	-1.9	-2.3

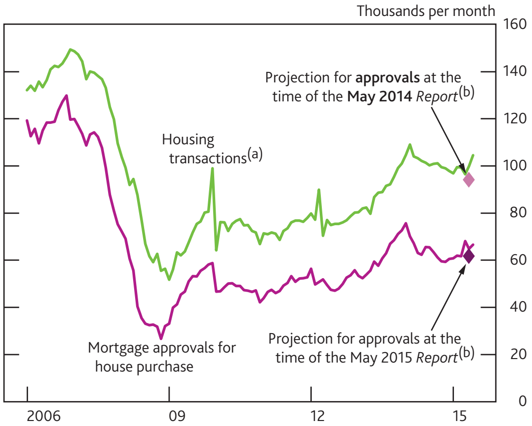
(a) Total available household resources divided by the consumer expenditure deflator.
(b) Wages and salaries plus mixed income less taxes plus net transfers, divided by the consumer expenditure deflator.
(c) Chained-volume measure. Includes non-profit institutions serving households.
(d) Percentage of household post-tax income.
(e) Percentage of household post-tax income excluding flows into employment-related pension schemes.

Chart 2.5 Mortgage interest rates are low
Average quoted mortgage interest rates[a][b]



(a) See footnote (c) to **Chart 2.3**.
(b) The data for July are a flash estimate of the provisional estimate, which will be published on 11 August.
(c) On mortgages with a loan to value ratio of 75%.

Chart 2.6 Mortgage approvals rose in Q2
Mortgage approvals and housing transactions



Sources: Bank of England, HM Revenue and Customs and Bank calculations.

(a) Number of residential property transactions for values of £40,000 or above.
(b) Bank staff's projections for the average number of approvals per month in 2015 Q2.

The weakness in housing transactions has weighed on related expenditures — such as estate agents' services — in recent years. But the other element of housing investment, dwellings investment, has been growing strongly (**Chart 2.7**). This comprises spending on new buildings and home improvements, and is less closely related to transactions. Past ONS estimates of dwellings investment have been revised up as the counterpart to upward revisions to construction sector output (Section 2.2). Together, dwellings investment and spending associated with housing transactions grew by 2.4% on the quarter in 2015 Q1, and are projected to grow by around 1¼% per quarter for the remainder of 2015.

Business investment

Business investment has made a substantial contribution to growth in recent years, although the quarterly growth profile has been volatile. In 2015 Q1, business investment rose by 2.0% (**Table 2.B**), although early estimates are often subject to large revisions.

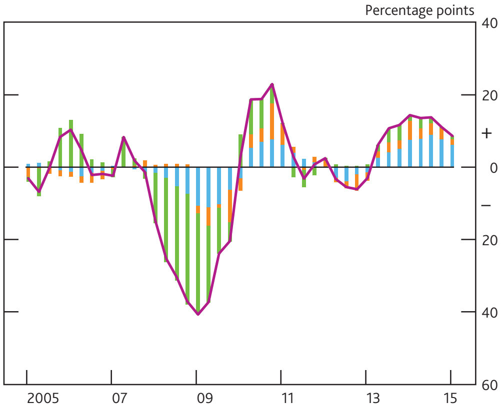
The recovery in aggregate demand, and the desire among companies to increase capacity in response, is likely to have been a key driver of the strength in business investment. Surveys of capacity utilisation, for example, are close to or a little above their historical averages (Section 3). The increase in business investment has been concentrated in the service sector, where output growth has been strongest (Section 2.2). And the proportion of respondents to the *CBI Service Sector Survey* saying that they are investing to expand capacity has risen back to around its pre-crisis level over the past couple of years.

Corporate credit conditions have also supported business investment. Respondents to the *Credit Conditions Survey* reported that overall credit availability was broadly unchanged in 2015 Q2, following significant improvements during the past couple of years, and that the spreads charged on loans had fallen. The almost 1 percentage point fall in the effective interest rate on businesses' time deposits since the start of 2013, and the lower cost of external finance, will have encouraged businesses to invest using both internal and external sources of finance. Private non-financial corporations (PNFCs) raised net external finance of over £11 billion in 2015 H1 (**Table 2.D**), the largest amount of H1 finance raised since 2009.

In contrast to the strength in investment in other sectors, capital spending in the oil and gas extraction sector has been weak. Extraction sector investment fell slightly in 2015 Q1, and is projected to be around 30% below its peak by the end of the MPC's forecast period. That projection primarily reflects a response to the fall in oil prices since mid-2014 (Section 1), although there is a high degree of uncertainty around the extent to which extraction investment will respond. The impact on total business investment of lower oil

Chart 2.7 New building accounts for most of the recent growth in housing investment

Contributions to four-quarter private housing investment growth[a]



(a) Chained-volume measure.

Table 2.D PNFCs continue to raise external finance

Net external finance raised by PNFCs[a]

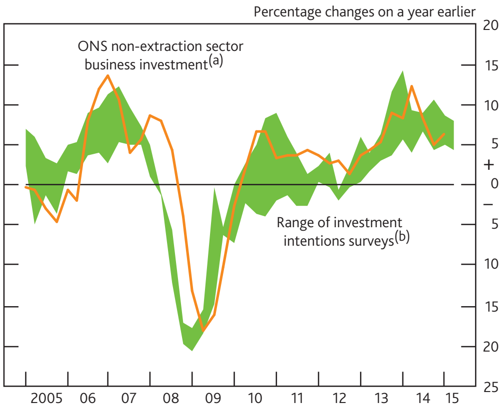
£ billions

	Quarterly averages				2015	
	2003–08	2009–12	2013	2014	Q1	Q2
Loans	11.7	-6.2	-2.1	-0.9	3.5	-0.4
Bonds[b][c]	3.4	3.2	3.0	3.3	0.4	2.7
Equities[b]	-2.1	1.3	-1.2	1.6	1.8	1.0
Commercial paper[b]	0.0	-0.4	0.0	-0.6	2.4	0.6
Total[d]	**12.7**	**-2.0**	**-0.5**	**3.2**	**7.8**	**3.4**
Memo: PNFC loan growth[e]	2.8	-0.7	-0.1	-0.4	0.6	-0.5

(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.
(e) Sterling net lending excluding the effects of securitisation. Percentage change on a quarter earlier.

Chart 2.8 Surveys suggest continued robust investment growth

Investment intention surveys and business investment



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

(a) Chained-volume measure. Data are to 2015 Q1 and take account of the transfer of nuclear reactors from the public corporation sector to central government in 2005 Q2.
(b) Includes survey measures of investment intentions from the Bank's Agents (companies' intended changes in investment over the next twelve months), BCC (net percentage balance of companies who say they have increased planned investment in plant and machinery over the past three months) and CBI (net percentage balance of companies who say they have revised up planned investment in plant and machinery over the next twelve months), scaled to match the mean and variance of four-quarter business investment growth since 2000. BCC data are non seasonally adjusted. Measures weight together sectoral surveys using shares in real business investment.

prices will also depend on whether those businesses that benefit from lower prices increase investment in response.

Survey indicators suggest continued near-term growth in investment, albeit at slightly less rapid rates than in 2014 (**Chart 2.8**). There are few signs that events in the euro area have weighed on investment: the percentage of respondents to the *CBI Quarterly Industrial Trends Survey* reporting that uncertainty was likely to hold back their investment decisions was low by historical standards in July. Overall, investment growth is expected to average around 1¼% per quarter over the remainder of 2015, supported by a further recovery in demand and the past easing in credit conditions.

Government spending

The Government's fiscal plans, on which the MPC's forecast is conditioned, embody a continued consolidation. According to the Institute for Fiscal Studies, around half of the total planned consolidation, relative to the pre-recession March 2008 *Budget*, has taken place. The consolidation is likely to weigh on spending across the economy: a detailed discussion of the measures announced in the *Summer Budget 2015* and their implications are set out in the box on page 16.

The Government's fiscal consolidation will directly reduce nominal government consumption of goods and services as a share of GDP. In the year to 2015 Q1, nominal government consumption rose by 0.5%, compared with nominal GDP growth of 4.3%. The implications for measured real government consumption — which rose by 2.3% in the year to Q1 — may be limited, however, because of the way in which real consumption is estimated. Real government consumption on school education, for example, is largely measured using the number of pupils taught, which is likely to be invariant to nominal government spending.[1] Cuts in nominal government spending may have a longer lasting effect on other expenditure components, such as household consumption, for example due to the relatively slower growth of public sector wages.

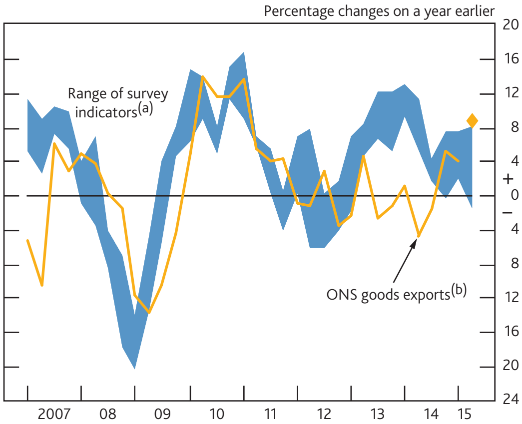
Exports and the current account

The demand for UK exports will be heavily influenced by global developments (Section 1). Export growth is volatile, but since early 2013 has averaged around ¾% per quarter, below its pre-crisis average of 1¼% (**Table 2.B**). The weakness in export growth over the past year or so primarily reflects subdued global growth: UK-weighted world GDP grew by 2¼% in the four quarters to Q1, below its historical average rate of 3% (Section 1). Survey indicators suggest that goods exports will continue to rise in the near term, but at a more

(1) For further discussion of measuring real government consumption see the box on page 21 of the May 2012 *Report*; www.bankofengland.co.uk/publications/Documents/inflationreport/ir12may.pdf.

Chart 2.9 Surveys point to modest growth in exports in coming months

Goods exports and survey indicators

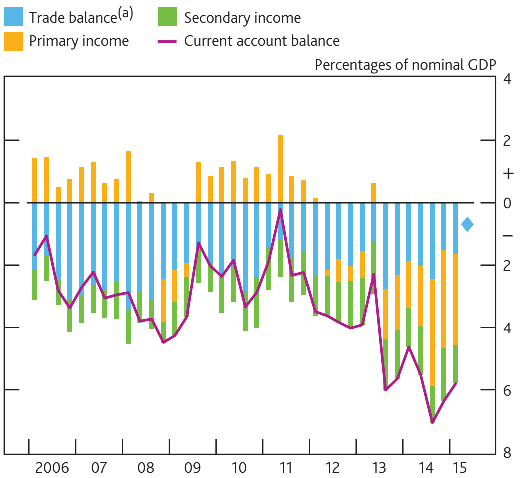


Sources: BCC, CBI, Markit/CIPS, ONS and Bank calculations.

(a) Includes measures of manufacturing export orders from BCC, CBI and Markit/CIPS scaled to match the mean and variance of annual goods export growth since 2000. BCC data are non seasonally adjusted.
(b) Goods export data exclude the estimated impact of MTIC fraud. The diamond shows Bank staff's projection for 2015 Q2 based on data for April and May.

Chart 2.10 Current account deficit remains wide but the trade deficit has narrowed

UK current account



(a) The diamond shows Bank staff's projection for the trade balance based on data for April and May.

modest pace than in late 2013 and early 2014 (**Chart 2.9**). Monthly goods export volumes, however, rose strongly in April, in part reflecting higher oil exports. Some of that more recent strength may reflect an unwind of weakness in official data in early 2014, when survey indicators pointed to stronger growth. During the second half of 2015, exports are expected to rise by ¼% per quarter on average, reflecting continued weakness in global demand. The 20% appreciation in sterling since its trough in 2013 is also likely to weigh on export growth as it reduces exporters' profitability.

Partly reflecting the higher level of exports in April and May, the trade deficit has narrowed significantly and in 2015 Q2 as a whole is expected to be 0.7% of GDP, its lowest since 1998. That improvement also reflects weak import growth so far in Q2 (Section 2.2). Those nominal trends are also likely to be associated with a substantial contribution to quarterly growth from net trade in Q2.

Despite the narrowing in the trade deficit, the current account deficit has remained very wide.(1) In 2015 Q1, the current account deficit was 5.8% of GDP (**Chart 2.10**), close to its average in 2014. The deterioration in the current account balance in recent years mainly reflects an increase in the primary income deficit: returns on UK companies' operations abroad have fallen and profits earned in the United Kingdom by foreign companies have risen.

2.2 Provision of goods and services

Final spending in the economy, whether for consumption, investment or export, will be met by a combination of domestic and imported production. How quickly domestic output and imports rise depends, in part, on how quickly different components of final demand increase. **Chart 2.11** illustrates the relationship between the components of final spending and production in 2010; the ribbons indicate how much of each expenditure component come from each output sector and how much was imported. For example, a much greater share of household consumption came from service sector output and as imports than from the manufacturing sector. Manufacturing sector output, in contrast, was more closely linked to export demand than domestic consumption or investment.

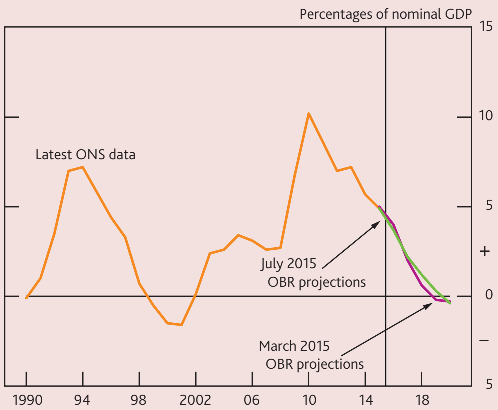
The precise relationship between spending and output is likely to vary through time. It will depend on both demand conditions (Section 2.1), the ability of the economy to supply goods and services (Section 3) rather than import them, and the relative price of domestically produced goods and services to those that are imported. The broad relationship between

(1) For further discussion of trends in the current account see pages 20–22 of the July 2015 *Financial Stability Report*; www.bankofengland.co.uk/publications/Documents/fsr/2015/fsrfull1507.pdf.

The fiscal consolidation

Since the 2009/10 fiscal year, a significant fiscal consolidation has been under way. Public sector net borrowing peaked in 2009/10 at over 10% of GDP, and fell to around 5% in 2014/15 (**Chart A**). The Government plans to continue this consolidation over coming years: the latest tax and spending plans — on which the MPC's projections are conditioned — were presented in the *Summer Budget 2015*. This box sets out the broad composition of the planned consolidation, how these have changed in the latest *Budget*, and the implications for the MPC's central projection of those changes.

Chart A The profile for the fiscal consolidation is slightly smoother following the *Summer Budget 2015*
Public sector net borrowing[a]



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

(a) Excludes the temporary effects of financial interventions. Data are for financial years. Observations to the right of the line are projections from the Office for Budget Responsibility's March 2015 and July 2015 *Economic and Fiscal Outlooks*.

The Government's fiscal plans

In the Summer *Budget*, public sector net borrowing was projected to continue falling, with the public finances reaching a balanced position by 2019/20. This remaining consolidation is planned to be achieved primarily through lower government spending, rather than higher tax revenue. The spending plans see public sector spending fall by around 4½% of GDP, concentrated in welfare payments and non ring-fenced departmental spending. Current tax receipts are expected to rise by only around 1% of GDP.

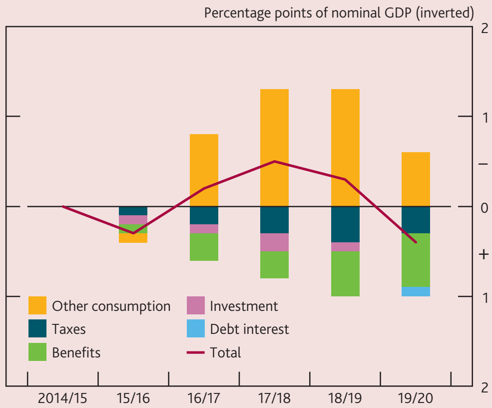
Changes in the Summer *Budget*

The changes contained in the Summer *Budget* have smoothed the path of the fiscal consolidation over the course of this parliament, relative to those set out in the March *Budget*, and on which the MPC's May projections were conditioned. The consolidation is a little more gradual in 2016/17 and 2017/18, but commensurately quicker in 2018/19 and 2019/20 (**Chart A**). By the 2019/20 fiscal year, as at the time of the March *Budget*, the Government expects a small fiscal surplus.

The changes to the overall scale of the consolidation, however, were small relative to its absolute size.

While there are only small changes to the planned fiscal deficit relative to the March *Budget*, the mix of the consolidation has changed substantially, as the Government has clarified its spending plans (**Chart B**). The level of departmental spending is higher throughout this parliament, and the effect of this on the deficit is broadly offset by larger increases in taxes and cuts to welfare payments than previously announced.

Chart B The composition of the fiscal consolidation has changed
Changes to the fiscal consolidation announced in the *Summer Budget 2015*[a]



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

(a) Bars represent the changes to the planned fiscal tightening (reduction in government borrowing) between the March 2015 *Budget* and *Summer Budget 2015*, decomposed into tax increases and spending cuts, with the spending cuts further decomposed into benefits cuts, other current spending cuts and investment spending cuts. See www.ifs.org.uk/publications/7879 for more details.

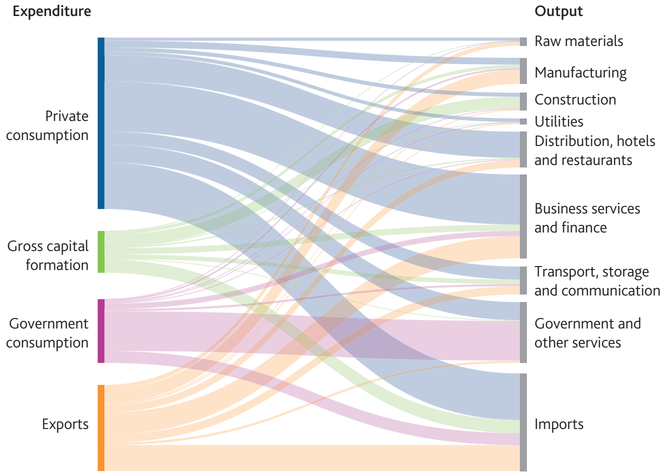
Macroeconomic impact of the changes

The overall drag on economic activity from the consolidation is uncertain. It will depend on factors such as the proportion of people who are credit constrained, and therefore cannot smooth through changes in their income, and the extent to which some households and companies have anticipated the changes and have already adjusted their spending. And it will depend on any impact that the consolidation has on other factors, such as asset prices, the exchange rate and confidence.

Based on the current Government's fiscal plans, a little less of the consolidation now takes place during the MPC's forecast period than was the case in the May projections, with more happening in future years (Section 5). The changes in the composition of the consolidation are likely to have differing effects on GDP both in terms of their initial impact and how long they drag on demand. For example, reductions in public investment will reduce GDP directly, whereas the effects of other measures, such as changes to public sector pay or taxes, may take longer to feed through and depend on how households and companies react to changes in their income.

Chart 2.11 Pattern of output growth reflects demand growth

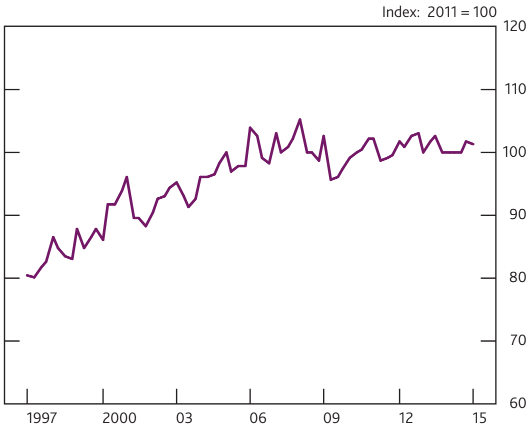
Mapping between expenditure components and output sectors(a)(b)



(a) Based on the *United Kingdom Input-Output Analytical Tables 2010*. The share of value added from each output sector in each expenditure component is calculated by multiplying the demand for output from each sector by the share of value added in the output of each sector, which is set out in the 'Matrix of coefficients'. The demand for output of each sector is calculated by multiplying the final demand, set out in the 'Domestic use' table, by the Leontief Inverse for each sector.
(b) The import share is calculated by adding together final imports and intermediate imports. Final imports are calculated by dividing the import content of each final expenditure component, from the 'Import use (product by product)' tables, by total final demand for each expenditure component, detailed in the 'Combined use' matrix. Intermediate imports are calculated by multiplying final demand by their intermediate import content, as set out in the 'Matrix of coefficients'.

Chart 2.12 Imports have grown in line with final demand

Imports relative to import-weighted demand(a)



Sources: ONS and Bank calculations.

(a) UK imports as a proportion of import-weighted total final expenditure, chained volume measures. Import-weighted total final expenditure is calculated by weighting together household consumption (including non-profit institutions serving households), whole-economy investment (excluding valuables), government spending, stockbuilding (excluding the alignment adjustment) and exports by their respective import intensities. Import and export data have been adjusted to exclude the estimated impact of MTIC fraud. Import intensities are estimated using the *United Kingdom Input-Output Analytical Tables 2010*.

demand and output illustrated in **Chart 2.11**, however, combined with the relative strength in consumption and the weakness in exports, may help to explain why the strength in output growth over the past year has been concentrated in the service sector.

Imports

The demand for imports will depend on both the strength in final demand and the relative prices of imports compared with domestically produced goods and services. A key determinant of those relative prices will be the sterling exchange rate, which has appreciated by 20% since its trough in 2013 (Section 1), having depreciated by 25% in 2007–08. Prior to the depreciation of sterling the share of final demand that was imported, adjusted for the weight of imports in different types of spending, had been steadily rising (**Chart 2.12**). But since 2007, that import share has been broadly stable, as the relative price of those imports rose and households and businesses stopped substituting away from UK-produced goods and services and towards imports.

The recent appreciation of sterling might be expected to boost the share of imports in final demand, but there is, as yet, little sign of that. In 2015 Q1, import volumes grew by 2.3% following rises of around 1½% a quarter in 2014 H2. But in April and May real goods imports dropped back a little, contributing to the narrowing in the trade deficit (Section 2.1). Overall, during the second half of 2015, imports are expected to rise by around ¾% per quarter.

GDP

GDP grew by 0.7% in 2015 Q2 according to the ONS's preliminary estimate. That was slightly stronger than expected at the time of the May *Report*, and close to its average growth rate since 2013. That follows growth of 0.4% in Q1 (**Chart 2.1**). Since the May *Report*, GDP growth has been revised up over the past, in particular since late 2014. The upward revisions were concentrated in the construction sector. Bank staff anticipate further upward revisions to GDP growth reflecting the pattern of past revisions and strength in the surveys relative to official estimates. In the mature estimates, growth in Q1 is projected to be revised up to 0.5%, while growth in Q2 is projected to be unchanged at 0.7%.

The pickup in GDP growth in 2015 Q2 reflected some bounceback in service sector growth, following a slowing in Q1 (**Table 2.E**). Production sector output rose strongly on the quarter, as an unusually sharp rise in energy sector output more than offset a slight fall in manufacturing output. The level of construction sector output was unchanged in Q2.

The near-term outlook for GDP growth

In the near term, GDP growth is projected to continue around its average rate since 2013. While the strength in energy sector output growth in Q2 is unlikely to be repeated, growth

Table 2.E Output growth has been concentrated in the service sector

GDP and sectoral output[(a)]

	Averages					2015	
	1998–2007	2010–12	2013	2014 H1	2014 H2	Q1	Q2
Percentage changes on a quarter earlier							
Production[(b)]	0.0	-0.2	0.5	0.4	0.3	0.2	1.0
of which, manufacturing	*0.1*	*0.2*	*0.3*	*1.1*	*0.4*	*0.1*	*-0.4*
Construction	0.5	0.2	1.3	3.1	1.2	-0.2	0.0
Services	1.0	0.5	0.6	0.9	0.8	0.5	0.6
GDP	0.7	0.3	0.6	0.9	0.8	0.4	0.7
Percentage changes on a year earlier							
Memo:							
GDP	3.1	1.4	1.7	2.8	3.2	2.9	2.6
GDP backcast	3.1	1.5	1.9	3.2	3.5	3.1	2.9

(a) Chained-volume measures. GDP is at market prices. Indices of sectoral output are at basic prices.
(b) Includes output of mining and quarrying and utilities sectors.

in service sector output is expected to continue to increase back towards its average rate, as consumption continues to grow at a robust pace. Survey indicators are consistent with continued growth at around current rates: a growth rate of 0.7% is incorporated into the MPC's fan chart for Q3, consistent with a preliminary estimate of 0.6% (**Chart 2.1**).

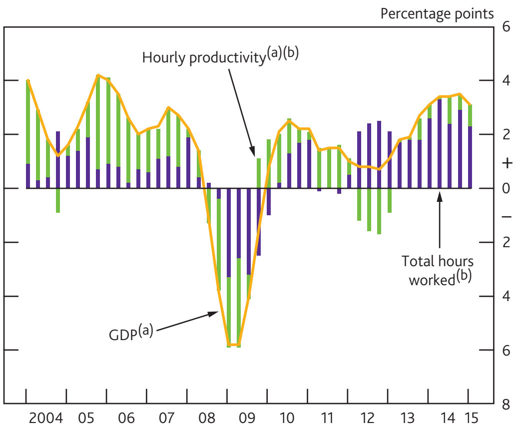
3 Supply and the labour market

Unemployment and average hours were unchanged and participation fell in the three months to May. Survey measures of capacity utilisation ticked up. The MPC's best collective judgement is that, taken together, alongside top-down estimates, these developments leave the degree of slack in the economy broadly unchanged from that in the May *Report*. Wage growth has picked up, reflecting both the past narrowing in slack and a pickup in productivity growth.

Table 3.A Monitoring the MPC's key judgements

Developments anticipated in May	Developments since May
Unemployment	**Higher than expected**
• Headline LFS unemployment rate to decline to around 5¼% by the end of 2015.	• Unchanged at 5.6% in the three months to May, and is expected to change little in Q3.
Participation	**Lower than expected**
• Labour participation rate to remain broadly unchanged over the rest of the year.	• Fell slightly to 63.3% in the three months to May. Likely to pick up slightly and remain around 63.4% in upcoming quarters.
Average hours	**Lower than expected**
• Average hours worked to increase by around ½% in the year to 2015 Q4.	• Unchanged in the three months to May. Expected to rise slightly in coming quarters.
Productivity	**Stronger than expected**
• Hourly labour productivity to be broadly flat during 2015 Q2–Q4.	• Hourly labour productivity growth was 0.8% in the four quarters to Q1.
Earnings growth	**Stronger than expected**
• Four-quarter AWE growth to rise to 2¾% by Q3.	• Four-quarter AWE growth was 3.2% in the three months to May.

Chart 3.1 Productivity accounted for a slightly greater share of GDP growth in Q1
Decomposition of four-quarter GDP growth



Sources: ONS and Bank calculations.

(a) Chained-volume measure, based on the backcast for the final estimate of GDP. Percentage change on a year earlier.
(b) Based on Bank staff's assumption for population growth, as explained in the May *Report*.

The outlook for output growth depends on demand (Section 2) and also on the supply capacity of the economy. The balance between demand and potential supply — that is, the degree of slack or spare capacity — is one important determinant of wages (Section 3.3) and broader inflationary pressures in the medium term (Section 4).

The supply side of the economy cannot be directly observed and the MPC therefore monitors a range of indicators of the level of potential supply, its likely evolution and the extent to which current activity is above or below it. The MPC reassessed its judgements on the outlook for supply in the May *Report*.

As set out in May, robust output growth in recent years has, in large part, been achieved by increases in total hours worked (**Chart 3.1**) as slack in the labour market has continued to be absorbed. In the latest data, total hours were significantly weaker than expected at the time of the May *Report* (Section 3.1). That could suggest that slack was materially larger than had been expected. Taken together with other labour market indicators, surveys of capacity utilisation among companies (Section 3.2), and top-down statistical estimates of slack, the MPC's best collective judgement is, however, that spare capacity in the economy as a whole remains in the region of ½% of GDP. There is substantial uncertainty about that judgement with a range of views among MPC members.

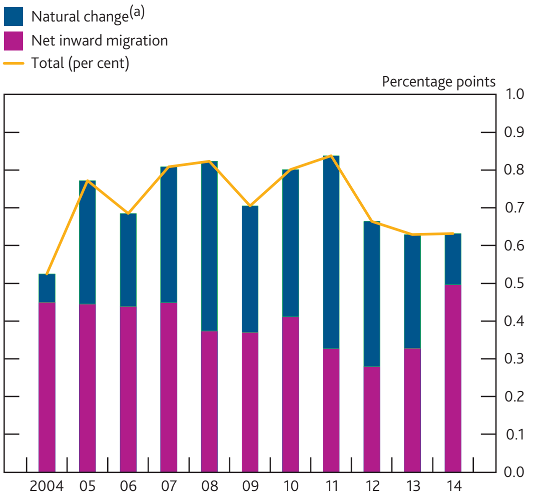
Alongside the strength in hours worked, productivity growth has been very weak in recent years. Since the May *Report*, however, productivity has grown more strongly than expected (Section 3.2). The past narrowing in labour market slack and rise in productivity growth have been associated with a pickup in wage growth (Section 3.3).

3.1 Labour market developments and slack

A key component of supply in the economy is the potential total number of hours that can be worked without generating

Chart 3.2 Net migration has increased over the past few years

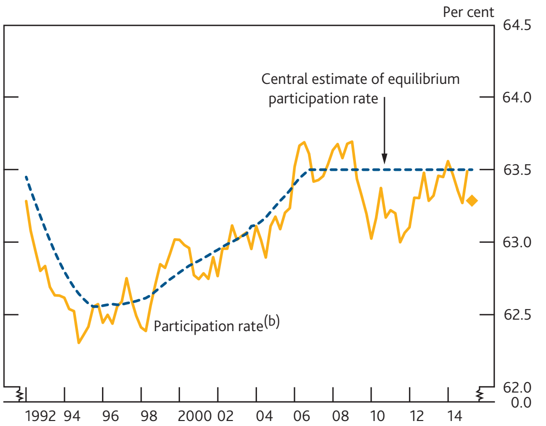
Contributions to annual population growth



(a) Natural change calculated as the difference between population growth and net inward migration.

Chart 3.3 Participation is likely to have fallen slightly in Q2

Participation rate and Bank staff estimates of the medium-term equilibrium participation rate(a)



Sources: Labour Force Survey and Bank calculations.

(a) Percentages of 16+ population.
(b) The diamond shows Bank staff's projection for 2015 Q2, based on ONS data to May 2015.

excessive wage growth. In May, the MPC judged that total hours worked were only slightly below their potential level. Total hours fell slightly in the three months to May compared to the previous three months, however, against expectations for a rise at the time of the May *Report*. Within that, all components were weaker than expected: labour participation fell, while the unemployment rate and average hours were unchanged. The MPC's assumptions about potential labour supply are unchanged from those presented in the May *Report*. The margin of slack in the labour market is, therefore, likely to be higher than estimated in May.

Population and participation in the labour market

Over the long term, growth in labour supply derives mainly from overall population growth. Population growth over the past few years has been supported by an increase in net inward migration. As discussed in the May *Report*, the rise in net migration led Bank staff to revise up their estimates of labour supply. In the four quarters to 2014 Q4, net inward migration was around 320,000, equivalent to 0.5% of the population (**Chart 3.2**), broadly as assumed in May.

Net inward migration during 2013–14 was around 40,000 higher in total than on average over the past ten years. That additional contribution to labour supply was, however, considerably smaller than those from participation and changes in average hours worked. Despite a continuing drag from demographic trends — in particular an ageing population — participation held up during 2013–14, adding around 130,000 to the labour market than would otherwise have been the case. And the increase in average hours worked over that period was equivalent to around an additional 370,000 people in work.

The participation rate fell slightly in the three months to May to 63.3%, compared to 63.5% in the previous three months (**Chart 3.3**). That small fall follows rises in recent years that are likely largely to have been cyclical, as improving labour market conditions encouraged people back into the workforce. Labour participation is judged to be now only a little below its assumed medium-term equilibrium rate. Consistent with that, the number of economically inactive people reporting to the Labour Force Survey that they want a job is currently around pre-crisis average levels.

The medium-term equilibrium rate is expected to remain broadly flat over coming years, with the drag from an ageing population broadly offset by the increasing desire of older age groups to work longer. In the near term, participation is expected to rise slightly towards that equilibrium rate.

Employment and unemployment

Employment fell by around 67,000 in the three months to May, following an increase of 248,000 in the three months to February and against expectations for a further rise at the time

Table 3.B Employment growth has slowed, employment intentions remain strong

Employment growth, vacancies and survey indicators of employment intentions

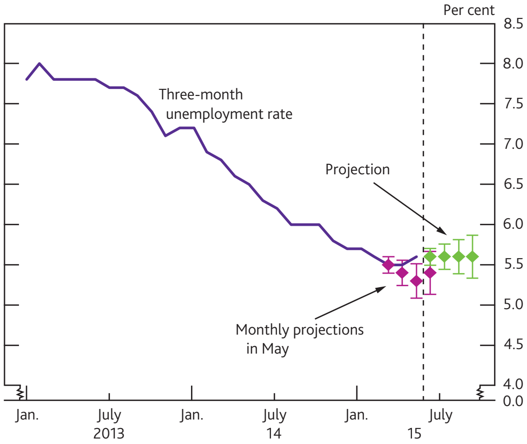
	Averages					2015	
	2000–07[a]	2010–12	2013	2014 H1	2014 H2	Q1	Q2
Employment growth[b]	70	67	95	196	108	202	-67
of which, employees[b]	*55*	*33*	*62*	*102*	*175*	*189*	*5*
of which, self-employed and other[b][c]	*16*	*35*	*33*	*94*	*-67*	*13*	*-72*
Vacancies to labour force ratio[d]	2.07	1.47	1.66	1.95	2.13	2.26	2.21
Surveys of employment intentions[e]							
BCC[f]	19	8	22	29	29	27	29
CBI[f]	5.4	-0.4	13.8	27.3	26.2	22.4	28.0
Agents[g]	0.8	0.3	0.4	1.2	1.3	1.1	1.3

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

(a) Unless otherwise stated.
(b) Changes relative to the previous quarter in thousands. Figures for 2015 Q2 are data for the three months to May 2015.
(c) Other includes unpaid family workers and those on government-supported training and employment programmes classified as being in employment. Calculated as the difference between total employment and employees.
(d) Vacancies calculated as a percentage of the total labour force. Excludes vacancies in agriculture, forestry and fishing. Average is 2001 Q2 to 2007. Labour force data for 2015 Q2 are data for the three months to May.
(e) Measures for the Bank's Agents (manufacturing and services), the BCC (non-services and services) and the CBI (manufacturing, financial services and business/consumer/professional services) are weighted together using employee jobs shares from Workforce Jobs. The BCC data are non seasonally adjusted.
(f) Net percentage balance of companies expecting their workforce to increase over the next three months.
(g) End-quarter observation. The scores refer to companies' employment intentions over the next six months. The scores are on a scale of -5 to +5.

Chart 3.4 Unemployment rate likely to be broadly flat in the near term

Bank staff's near-term unemployment rate projection[a]



Sources: Labour Force Survey (LFS) and Bank calculations.

(a) The magenta diamonds show Bank staff's central projections for the headline unemployment rate for March, April, May and June 2015, at the time of the May *Report*. The green diamonds show the current staff projections for the headline unemployment rate for June, July, August and September 2015. The bands on either side of the diamonds show uncertainty around those projections based on one root mean squared error of past Bank staff forecasts for the three-month LFS unemployment rate.

of the May *Report*. That reflected both slower growth in the number of employees and a decline in the number of self-employed. While this followed a temporary slowing in output growth in 2015 Q1 (Section 2), indicators of labour demand remain strong: surveys of employment intentions generally remain at high levels (**Table 3.B**) and, while the number of vacancies relative to the size of the workforce fell slightly in the latest data, that ratio remains above its pre-crisis average level. That could suggest employment growth is likely to rebound. But the slowing in employment growth may partly reflect companies finding it increasingly difficult to recruit new employees as labour market conditions have tightened.

Following sharp falls since mid-2013, the unemployment rate was 5.6% in the three months to May, unchanged from that in the three months to February and higher than the 5.3% expected at the time of the May *Report* (**Chart 3.4**). The claimant count rate — a timely indicator of the unemployment rate — has been unchanged since March.

The pace at which unemployment can fall further is likely to be somewhat slower than in the past few years and Bank staff expect unemployment to change little in the next few months (**Chart 3.4**). The flow of people moving from unemployment to employment is close to its pre-crisis average (**Chart 3.5**). And the proportion of people out of work for less than twelve months has fallen below its pre-crisis average (**Chart 3.6**). While the proportion of those out of work for more than twelve months remains elevated — suggesting some scope for unemployment to fall further — the ease with which the unemployed can find a job tends to decline with the time spent out of employment.

Further ahead, the extent to which unemployment falls, and its influence on wages, will depend, in part, on the structural characteristics of the labour market. There is considerable uncertainty around the long-term equilibrium unemployment rate, but Bank staff's central estimate remains around 5%. The rate could be lower than that, for example due to improved job search technology and changes to the tax and benefit system over many years. Alternatively, the rate could be higher, for example, if the recession has resulted in a greater degree of mismatch between the skills of the unemployed and the skills that companies are seeking.

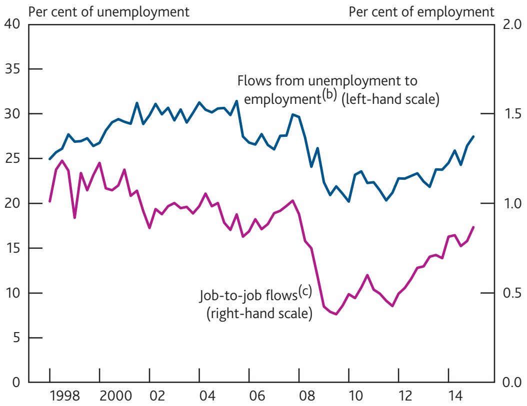
Hours worked

The contribution of each person in work to overall labour supply will depend on the number of hours that they work. Over the past few years, companies have met increased demand by hiring new people, but also by increasing the hours of existing employees.

The MPC judges that there is likely to be some scope for future increases in average hours as they are currently slightly below

Chart 3.5 Flows from unemployment to employment have risen close to pre-crisis rates

Flows from unemployment to employment and job-to-job flows[a]

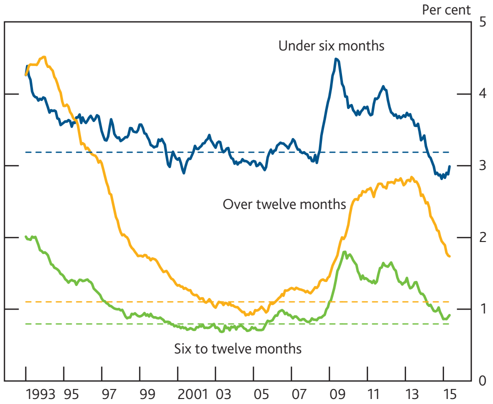


Sources: Labour Force Survey and Bank calculations.

(a) Based on two-quarter longitudinal microdata. Seasonally adjusted by Bank staff.
(b) Number of people who report being unemployed three months ago, and report being employed.
(c) Number of people who report resigning three months ago, and report being in employment for less than three months. Expressed as a percentage of 16–64 employment.

Chart 3.6 Long-term unemployment remains elevated

Unemployment rates by duration[a]

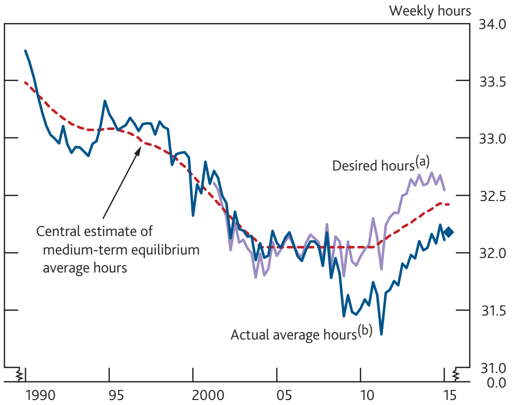


Sources: Labour Force Survey and Bank calculations.

(a) The number of people unemployed in each duration category, divided by the economically active population. Dashed lines are averages from 2002 to 2007.

Chart 3.7 Average hours remain below their equilibrium level

Average weekly hours: actual, desired and Bank staff's estimate of medium-term equilibrium



Sources: Labour Force Survey and Bank calculations.

(a) Number of hours that the currently employed report that they would like to work, on average, per week calculated from LFS microdata, which have been seasonally adjusted by Bank staff. Calculation based on Bell, D and Blanchflower, D (2013), 'How to measure underemployment?', *Peterson Institute for International Economics Working Paper No. 13–7*. Data available up to 2015 Q1.
(b) The diamond shows Bank staff's projection for 2015 Q2, based on ONS data to May 2015.

their medium-term equilibrium rate (**Chart 3.7**). There is considerable uncertainty over the scale of any future rises, however. There remain signs of underemployment: for example, desired hours reported in the Labour Force Survey are still somewhat above actual average hours and the proportion of part-time staff who report that they wanted but could not get a full-time job also remains elevated. But there could be less slack in average hours if higher household incomes have reduced some people's desire to work longer hours, or second earners' desire to work at all.

3.2 Productivity and capacity utilisation

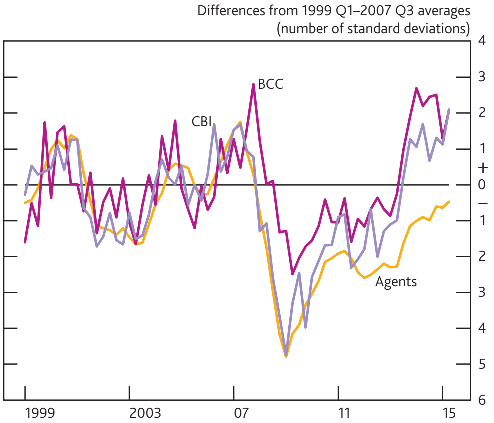
Productivity growth is a key determinant of supply and wage growth (Section 3.3). Growth in productivity — defined as output per hour worked — has been subdued since the financial crisis but appears to have picked up recently: in the four quarters to 2015 Q1, productivity growth was 0.8% and is expected to have been 1.5% in the four quarters to Q2. While this marks a considerable strengthening compared to the past few years, it is still weaker than its pre-crisis average rate of 2.4%.

The implications of the pickup in productivity growth for the outlook will depend on the extent to which it reflects an increase in underlying trend productivity. One factor that will affect measured productivity growth relative to trend is companies' capacity utilisation. Companies using their existing capital and labour more intensively will increase measured productivity but there is a limit to how far companies can do this without putting excessive upward pressure on their costs. Survey measures suggest that, having increased since 2013, capacity utilisation picked up a little in 2015 Q2, and is close to or perhaps slightly above past average levels (**Chart 3.8**), slightly higher than expected at the time of the May *Report*. That suggests that some of the recent pickup in productivity growth could be cyclical and hence temporary, rather than structural.

Another factor that has affected measured productivity relative to trend is the influence of changes in the composition of employment. Since mid-2013, employment growth has been unusually concentrated in lower-skilled occupations and among employees with fewer qualifications and those who are new to their roles. To the extent that these characteristics are associated with lower levels of productivity, this shift in the composition of employment will have dragged on aggregate productivity growth over the past two years. But these compositional effects will drag on productivity growth only for as long as such shifts continue. So part of the recent rise in productivity growth may have reflected a diminution of this compositional effect.

As discussed in the May *Report,* several other factors are likely to be weighing on underlying trend productivity growth. For

Chart 3.8 Capacity utilisation rose slightly in Q2
Survey indicators of capacity utilisation(a)



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

(a) 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/professional services and distributive trades) using shares in nominal value added. The surveys are adjusted to have a mean of zero and a variance of one over 1999 Q1 to 2007 Q3. The BCC data are non seasonally adjusted.

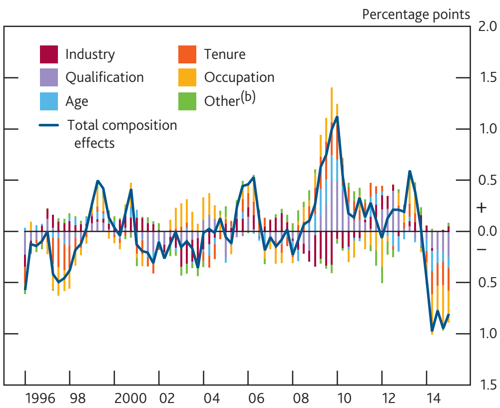
Table 3.C Earnings growth likely to have picked up further in Q2
Whole-economy earnings

	Averages					2015	
	2001–07	2008 Q3–2010 Q2	2013	2014 H1	2014 H2	Q1	Q2
Percentage changes on a year earlier							
(1) Total AWE(a)	4.3	1.4	1.2	0.8	1.6	2.3	2.8
(2) AWE regular pay(a)(b)	4.0	2.1	0.9	1.0	1.5	2.3	2.8
(1)–(2) Bonus contribution(a)(c)	*0.3*	*-0.7*	*0.2*	*-0.2*	*0.1*	*0.0*	*0.0*
Pay settlements(d)	3.2	2.5	1.8	2.0	2.1	2.0	2.3
Memo: private sector regular pay(a)	3.9	1.6	1.1	1.3	1.9	2.8	3.3

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

(a) Figures for 2015 Q2 are estimated based on data for April and May and Bank staff's projections for June.
(b) Whole-economy total pay excluding bonuses and arrears of pay.
(c) Percentage points. The bonus contribution does not always equal the difference between total AWE growth and AWE regular pay growth due to rounding.
(d) Average over the past twelve months, based on monthly data.

Chart 3.9 The changing composition of employment has weighed on average wage growth recently
Estimates of the contribution of employment characteristics to four-quarter wage growth(a)



Sources: Labour Force Survey and Bank calculations.

(a) Estimates are shown relative to their averages over 1995 Q2–2015 Q1. Estimates of the effect of individual and job characteristics are derived from a regression of these characteristics on levels of employee pay using Labour Force Survey data. The estimate of the total compositional effect is obtained by combining these estimates with changes in the composition of the labour force.
(b) Other includes gender, region of residence, whether working full-time and whether in public sector employment.

example, forbearance and a low level of Bank Rate may have allowed businesses that face persistently lower demand to remain operational, impairing the reallocation of resources to new or more dynamic companies with the potential to achieve higher productivity. In addition, it is possible that past weakness in investment in not only physical but also 'intangible' capital, such as employees' skills, may have reduced the pace of innovation and hindered companies' ability to adopt more innovative processes.

The impact of these factors could now be starting to wane, resulting in faster trend productivity growth. As those factors continue to subside, productivity growth is expected to continue to improve, supporting supply growth as the boost from labour supply diminishes (Section 5).

3.3 Wages

Labour market slack and productivity growth are key influences on wage growth. Despite the narrowing in labour market slack in the past few years, the corresponding pickup in wage growth has only recently started to come through.

Whole-economy pay grew by 3.2% in the three months to May compared to the same period a year earlier, 1 percentage point stronger than expected at the time of the May *Report*. A better gauge of companies' cost pressures is private sector pay (Section 4), which grew more rapidly at 3.8%. That increase was, in part, due to strong growth in bonuses, which tend to be volatile and may not be a good indicator of underlying wage pressures. In Q2 as a whole, private sector regular pay growth is expected to have been a little lower at 3.3% (**Table 3.C**), although that was stronger than growth in Q1.

The recent pickup in wage growth suggests that the impact of factors that have previously weighed on wage growth could have started to wane. For example, compositional effects are likely to have been pushing measured earnings growth down. Stripping these out, Bank staff estimate that underlying wage growth is likely to have been around 0.8 percentage points higher in Q1 than implied by measured earnings growth (**Chart 3.9**). It is possible that the pickup in wage growth since then partly reflects a diminution of these effects. But the extent to which this is the case is unclear as detailed data on the composition of changes in the labour force in Q2 are not yet available.

Another driver of the pickup in wage growth may have been the past narrowing in slack. The REC survey has suggested strong growth in starting salaries for some time (**Chart 3.10**). But the past weakness in labour market turnover (**Chart 3.5**) may have meant that these higher pay pressures have been slow to pass through to average wages. As people become

The impact of the National Living Wage

As part of the *Summer Budget 2015*, the Government announced the introduction of a National Living Wage (NLW) through a Living Wage Premium, which will apply on top of the National Minimum Wage for employees aged 25 and over. It will be set at £7.20 an hour in April 2016. The profile for yearly increases is due to be based on recommendations of the Low Pay Commission and should ensure that the NLW equates to 60% of median hourly earnings by April 2020.

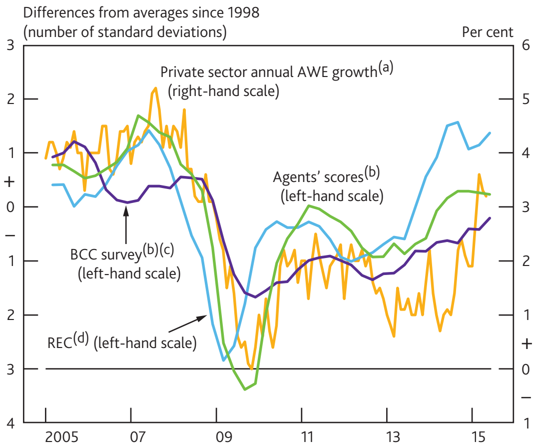
The NLW could affect the labour market in a number of ways. It will directly increase the wages of those earning less than the specified rate of pay. If employers wish to maintain pay differentials among employees, that could increase the wages of those already earning more than the NLW. The extent to which these increases, in turn, put upward pressure on inflation will depend on a number of factors. Some companies might be able to offset the increase in labour costs by reducing non-wage costs. Other companies may look for productivity improvements, with some achieving that through changing the size or mix of their staffing.

Bank staff estimate that the overall impacts of the NLW on wages and labour demand are likely to be limited. Evidence from the National Minimum Wage largely suggests that the impact on the wages of other staff has historically tended to be small. Past evidence suggests that companies have partly responded in ways other than by increasing prices: for example, they have adjusted pay structures and reduced other labour costs, such as overtime pay. There is also limited evidence of increases in the National Minimum Wage affecting aggregate employment in the United Kingdom.

Based on the distribution of hourly pay from the Annual Survey of Hours and Earnings in 2014, Bank staff estimate that around three million employees are likely to be directly affected by the new NLW by 2020. Given that, and the assumption of some indirect effects on people further up the wage distribution or under the age of 25, Bank staff estimate that the overall impact is likely to be an increase in the level of aggregate pay of less than ½% gradually over the next five years. As a result, Bank staff expect the NLW to boost average annual wage growth by less than 0.1 percentage points over the MPC's forecast period.

Chart 3.10 Earnings growth now more in line with survey indicators

Private sector earnings and indicators of pay growth



Sources: Bank of England, BCC, KPMG/REC/Markit, ONS and Bank calculations.

(a) Excludes bonuses and arrears of pay.
(b) The Bank's Agents' scores and the BCC survey are produced by weighting together indices for the manufacturing and service sector according to their employment shares. The Bank's Agents' scores are the end-quarter score, and are available from June 1998.
(c) Four-quarter moving average measure. Non seasonally adjusted.
(d) The REC measure is produced by weighting together survey indices for the pay of permanent and temporary placements using shares in employment; quarterly averages.

more confident about their job prospects, these higher starting salaries and the need to retain staff are likely to pull up average wage growth further.

Wage growth is expected to continue to strengthen in the near term, reflecting the past narrowing in labour market slack (Section 3.1) and the pickup in productivity growth (Section 3.2) — although four-quarter wage growth is likely to weaken in 2015 Q4, due to strong bonuses in 2014 Q4. As the impact of temporary factors currently weighing on wage growth, such as subdued labour turnover, diminish, wage growth is likely to outpace productivity growth further. This will gradually raise unit labour costs, consistent with inflation returning to the MPC's 2% target (Section 4). As explained in the box above, the impact of the National Living Wage announced in the *Summer Budget 2015* is uncertain but estimated to be small.

4 Costs and prices

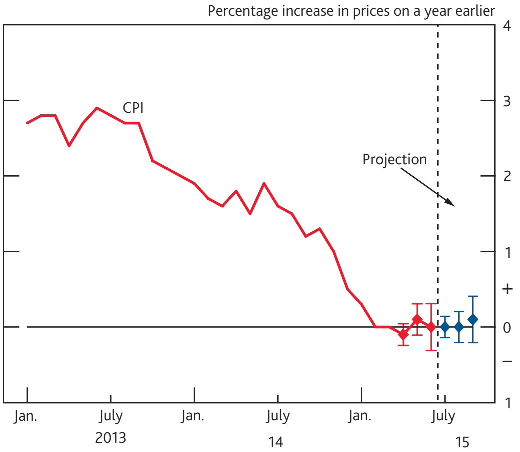
CPI inflation was 0.0% in June. The current weakness in inflation can largely be accounted for by lower energy, food and other goods prices. But it also reflects weak growth in domestic costs. Supply chain indicators of current cost pressures, combined with the expected strengthening in labour cost growth, are consistent with inflation rising back to 2% within the next two years. Overall, the MPC judges that inflation expectations remain well anchored.

Table 4.A Monitoring the MPC's key judgements

Developments anticipated in May	Developments since May
Inflation expectations	**Broadly on track**
• Indicators of inflation expectations consistent with meeting the 2% target in the medium term.	• Movements in indicators of inflation expectations have been mixed. On balance, measures are broadly consistent with the 2% target.
Unit labour costs	**Weaker than expected**
• Four-quarter whole-economy unit labour cost growth to average 1½%.	• Unit labour costs grew by 0.6% in the four quarters to 2015 Q1.
Retail energy prices	**Weaker than expected**
• Petrol prices to increase by around 5% in Q2. • A further slight reduction in domestic gas prices in Q2.	• Petrol prices rose by around 5% in Q2, but expected to fall in Q3. • Domestic gas prices fell slightly in Q2, and expected to fall further in Q3.
Import prices	**Weaker than expected**
• Import prices to fall by around 5% in the year to 2015 Q4.	• Import prices estimated to have fallen by 6½% in the year to 2015 Q2.

Chart 4.1 CPI inflation expected to remain around zero over the next few months

Bank staff projection for near-term CPI inflation[(a)]



(a) The red diamonds show Bank staff's central projection for CPI inflation in April, May and June 2015 at the time of the May *Inflation Report*. The blue diamonds show the staff projection for July, August and September 2015. The bands on each side of the blue and red diamonds show the root mean squared error of the projections for CPI inflation one, two and three months ahead made since 2004.

CPI inflation was 0.0% in June, 2 percentage points below the 2% inflation target. The current weakness is predominantly due to lower energy, food and other goods prices, which are judged to reflect largely external factors (Section 4.1). Inflation in the service sector has also been relatively weak, which is more likely to reflect subdued domestic cost growth.

Inflation is expected to rise to the 2% target within the next two years. By early 2016, past falls in the prices of food, energy and other goods will have largely dropped out of the annual inflation rate, increasing the contribution of these items to CPI inflation by around 1 percentage point, although recent falls in energy prices will mean that this contribution will bear down on inflation for longer than projected in May. Domestic cost growth is also expected to strengthen. Over the past two years, output growth has been solid (Section 2), labour market conditions have tightened and there are some signs that this is starting to put upward pressure on wages (Section 3). The inflation outlook will be determined in part by developments in the cost of traded goods (Section 4.2) and labour costs, and also by how past changes in costs feed through the supply chain, companies' pricing behaviour (Section 4.3), and how these are affected by changes in inflation expectations (Section 4.4).

4.1 Consumer prices

CPI inflation was 0.0% in June, as expected at the time of the May *Report* (**Chart 4.1**). As inflation remains more than 1 percentage point below the 2% inflation target, the Governor has written a third consecutive letter to the Chancellor as required by the MPC's remit.[(1)]

As explained in that letter, three quarters of the current weakness in inflation relative to the target — 1.5 percentage points — is due to past falls in energy, food and other goods prices (**Table 4.B**). Those falls are judged to reflect

(1) The letter can be found at www.bankofengland.co.uk/monetarypolicy/Documents/pdf/cpiletter060815.pdf.

Table 4.B Three quarters of the weakness in inflation relative to the target is due to food, energy and other goods prices

Contributions to June 2015 CPI inflation relative to pre-crisis average[a]

Percentage points

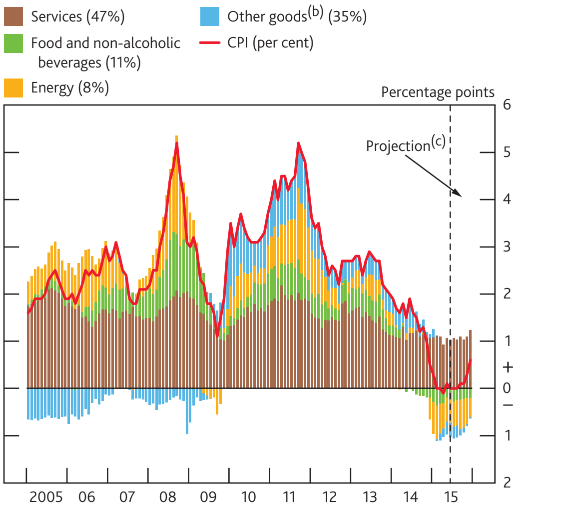
	1997–2007 average[b]	June 2015	Difference
Energy, food and other goods	0.4	-1.1	-1.5
Services	1.6	1.0	-0.5
Total	**2.0**	**0.0**	**-2.0**

Sources: ONS and Bank calculations.

(a) Totals may not sum exactly due to rounding.
(b) Adjusted for the 0.4 percentage point downward bias from clothing that existed until 2010.

Chart 4.2 The drag from past falls in food and energy prices will diminish over 2015 H2

Contributions to CPI inflation[a]

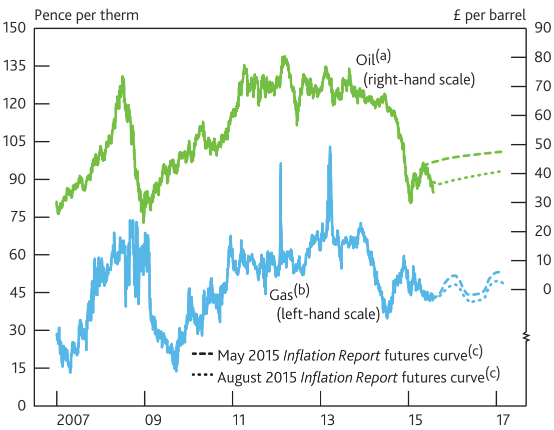


Sources: Bloomberg, Department of Energy and Climate Change, ONS and Bank calculations.

(a) Contributions to annual CPI inflation. Figures in parentheses are weights in the CPI basket in 2015, and may not sum to 100 due to rounding.
(b) Calculated as the difference between CPI inflation and the contribution from the goods and services identified in the chart.
(c) Bank staff estimates. Estimates are conditioned on the assumption that utilities companies reduce gas prices by an average of 5% over 2015 H2. They use Department of Energy and Climate Change petrol price data for July 2015 and are then based on the August 2015 sterling oil futures curve shown in **Chart 4.3**.

Chart 4.3 Wholesale energy prices have fallen since May

Sterling oil and wholesale gas prices



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

(a) Brent forward prices for delivery in 10–25 days' time converted into sterling.
(b) One-day forward price of UK natural gas.
(c) Futures prices at the time of the May *Report* are averages during the fifteen UK working days to 7 May for gas and averages during the fifteen US working days to 7 May for oil. Futures prices at the time of the August *Report* are averages during the fifteen working days to 29 July 2015.

predominantly global factors: compared with a year ago, the spot US dollar oil price is 47% lower and agricultural commodity prices 9% lower. In part reflecting this, inflation has been weak across many countries (Section 1). The 20% appreciation of sterling since its trough in 2013, and the resulting weakness in imported goods prices (Section 4.2), will also have weighed on UK inflation.

One quarter of the weakness in inflation relative to the target — 0.5 percentage points — is due to weak services price inflation. Although falls in import prices may have played a role, this is judged largely to reflect weak domestic cost pressures. A consequence of the slack that opened up in the labour market after the 2008/09 recession has, until recently, been relatively low wage growth, which, in turn, has kept service sector inflation and measures of domestically generated inflation subdued but stable (see the box on pages 28–29).

In the short term, inflation is expected to remain close to zero (**Chart 4.1**), before rising around the turn of the year. The contribution to inflation from energy, food and other goods prices is likely to increase by around ½ a percentage point by the end of 2015 (**Chart 4.2**), and by another ½ percentage point in the first half of 2016, as past price falls drop out of the annual comparison. The near-term outlook is, however, weaker than three months ago, largely due to lower energy prices (Section 4.2).

As wage growth continues to return to more normal rates — following the narrowing in labour market slack — and feeds through into companies' costs and prices, service sector inflation and measures of domestically generated inflation are expected to pick up, consistent with inflation returning to the 2% target (Section 5). There remains, however, considerable uncertainty around this central projection.

4.2 Developments in the prices of traded goods and services

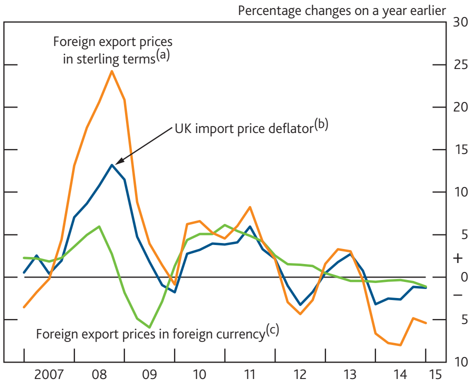
The prices of goods and services that are traded globally — such as food, energy and other imports — have been key factors pulling down UK CPI inflation over the past year, and the extent to which inflation remains low will depend, in part, on how these evolve.

Energy prices

Since the May *Report*, spot and futures oil prices have fallen by around 12% in US dollar terms (Section 1), and by around 14% in sterling terms (**Chart 4.3**). Petrol prices, which tend to move closely with the oil price, remain lower than a year ago and subtracted 0.3 percentage points from CPI inflation in June.

Chart 4.4 Sterling appreciation has dragged on UK import prices

UK import and foreign export prices excluding fuel

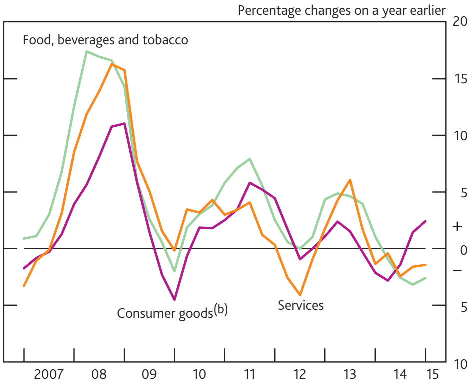


Sources: Bank of England, CEIC, Eurostat, ONS, Thomson Reuters Datastream and Bank calculations.

(a) Domestic currency non-oil export prices of goods and services of 51 countries weighted according to their share in UK imports, divided by the sterling effective exchange rate. The sample does not include any major oil exporters.
(b) Goods and services deflator excluding fuels and the impact of MTIC fraud.
(c) Domestic currency non-oil export prices as defined in footnote (a).

Chart 4.5 Components of import price inflation have diverged

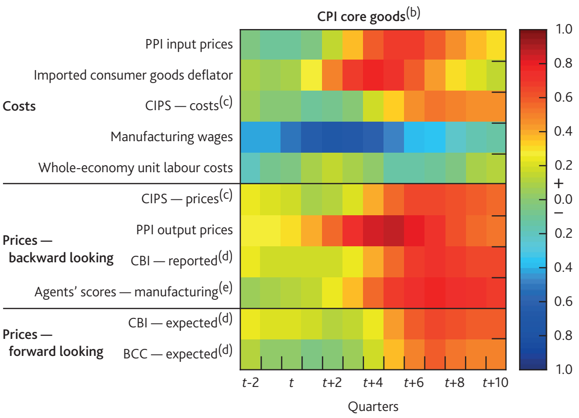
Import price inflation by category[a]



(a) Deflators for imported goods and services.
(b) Excludes imports of cars.

Chart 4.6 Supply chain indicators lead CPI goods inflation

Correlation between CPI inflation and manufacturing supply chain indicators[a]



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

(a) Correlations calculated between 2001 and 2015 Q1. Calculated using percentage changes on a year earlier, unless otherwise stated. The '*t*' column contains contemporaneous correlations, cells to the right of this column contain the correlations between the indicator and future values of CPI core goods inflation at the indicated number of quarters, while cells to the left contain correlations between the indicator and past values of CPI core goods inflation.
(b) CPI goods excluding food, non-alcoholic beverages, energy, clothing and footwear and Bank staff estimates of the impact of changes to VAT.
(c) Diffusion index.
(d) Net percentage balance.
(e) Agents' scores are for the previous three months relative to the same period a year earlier. Scores range from -5 to +5, with a score of zero indicating no change.

The recent falls in oil prices mean that petrol prices are projected to fall slightly over the next few months, and the contribution from petrol will remain negative for longer than expected in May. Beyond that, the oil futures curve, upon which the MPC's projections are conditioned, slopes upwards and petrol price inflation is projected to pick up as the past falls in prices gradually drop out of the annual inflation rate. There remains uncertainty around the path of the oil price, however, with risks in both directions (Section 1).

Spot and futures prices of wholesale gas have fallen by around 5% since May (**Chart 4.3**). The reduction in household gas prices of around 4% in the first half of 2015 will continue to subtract around 0.1 percentage points from CPI inflation until early 2016. Since the May *Report*, one of the six largest suppliers of household energy has announced a further reduction in gas prices of 5% from the end of August. The near-term forecast is conditioned on the assumption that other suppliers make similar price reductions, taking a further 0.1 percentage points off CPI inflation until the second half of 2016.

Non-energy import prices

Many goods and services consumed in the United Kingdom are imported or produced using imports as inputs, so import prices affect CPI inflation. These import prices depend both on world export prices and the exchange rate. World export prices — excluding fuel — have fallen slightly over the past few years (**Chart 4.4**), in part as a consequence of lower non-energy commodity prices and subdued inflation in many countries (Section 1). Further, sterling has appreciated by 3½% since the May *Report*, and by 20% since its trough in 2013. This has significantly reduced the price of world exports in sterling terms. This, in turn, will feed through to lower UK import prices, which, excluding fuels, were 1¼% lower in 2015 Q1 than in the same quarter a year earlier. Most of the pass-through from changes in exchange rates to import prices tends to happen within a year, but the extent of pass-through is highly uncertain and will depend on factors such as the mix of imports and the currencies that they are priced in. Import prices have not fallen by as much as might have been expected. Given the time that has now passed since sterling began to rise, the MPC judges that the earlier appreciation will be associated with somewhat less of a fall in import prices than previously assumed.

The link between import prices and consumer prices is also highly uncertain. Some goods and services are intermediate inputs in producing consumer goods, and companies may, in the short term, absorb changes in import prices in their profit margins rather than pass them through directly to consumer prices (Section 4.3). The timing and size of this pass-through may also depend on the composition of these changes. Prices of imported food, beverages and tobacco — which were around 2½% lower in 2015 Q1 than a year earlier (**Chart 4.5**)

Measures of underlying inflation

The MPC's objective is to meet a target of 2% headline CPI inflation. From month to month, however, headline inflation can be volatile, and over longer periods it can be moved around by factors that do not reflect the general trend in prices in the economy. Since monetary policy affects inflation with a lag, responding to temporary deviations from target can increase economic volatility in unnecessary and undesirable ways. It is therefore useful to distinguish between temporary influences on inflation — such as past falls in oil prices — and those with more persistent effects — such as import prices or the remaining degree of spare capacity in the economy.

Since the end of 2013, CPI inflation has fallen by 2 percentage points, to around zero, and a key question is the extent to which the current low level of inflation will be persistent. This box discusses some of the measures that shed light on the drivers of inflation and their likely persistence.

Measures of core CPI inflation

One way to determine whether movements in inflation are temporary or persistent is to exclude the items that tend to see significant volatility in their prices, such as food and energy. Another is to use a measure of CPI that puts less weight on extreme or erratic movements in prices, for example by reducing the weight on components that have historically been more volatile. Measures that focus on these narrower concepts of inflation are often referred to as 'core' inflation.

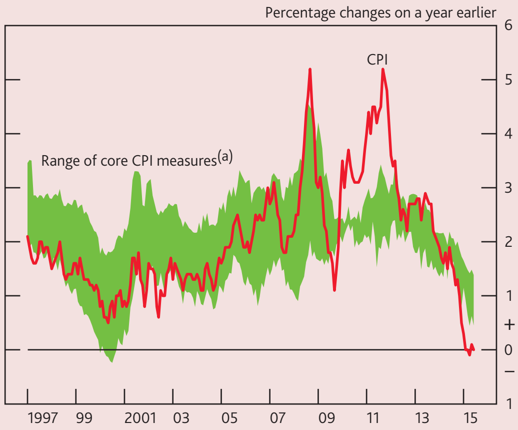
Many measures of core inflation in the United Kingdom have fallen markedly since the beginning of 2013, albeit by less than headline inflation (**Chart A**). This suggests that, while some of the weakness in inflation can be attributed to changes in the prices of a few components, factors that influence the inflation rate of a large number of components have also been important. One such factor will have been the recent fall in import prices (Section 4.2), which could have a broad-based and relatively persistent impact on CPI inflation. While it is not possible to calculate precisely the role that import prices have had in the fall in inflation, much of the recent fall in CPI inflation has been driven by a combination of energy and those goods and services with a relatively high share of imports (**Chart B**). In contrast, the contribution from those goods and services with a lower share of imports has been more stable. This suggests that some of the decline in core inflation measures does indeed reflect the lower price of imports.

Other measures of underlying inflation

Another potential factor behind the recent fall in inflation could have been a weakening in domestic cost growth. It is,

Chart A Measures of core inflation have fallen

Measures of core CPI inflation

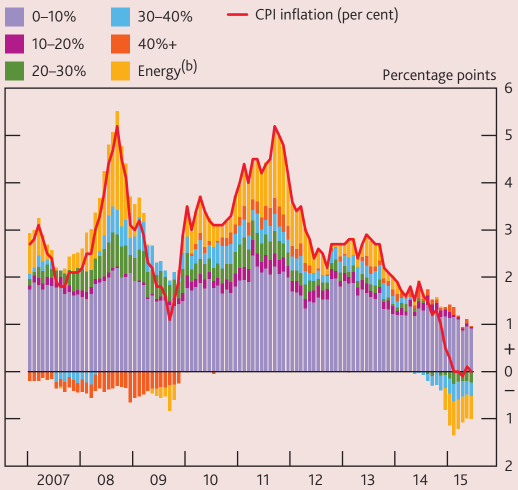


Sources: ONS and Bank calculations.

(a) Swathe includes measures of CPI, adjusted by Bank staff for changes in VAT, excluding: energy and food; food, non-alcoholic beverages and energy; food, non-alcoholic beverages, alcohol, energy and tobacco; food, non-alcoholic beverages, alcohol, energy, tobacco and education. It also includes the median inflation rate of the 85 CPI sub-components and a measure where component weights in CPI are multiplied by the inverse of the past volatility of that component. Where series have been adjusted for VAT, there is uncertainty around the precise impact of the changes in VAT in 2008, 2010 and 2011 on CPI.

Chart B Lower energy and import prices have pulled down inflation

Contributions to CPI inflation by direct import intensity[a]



(a) ONS calculations. Direct import intensities have been estimated by the ONS using the *2010 Input-Output Analytical Tables*. It does not include the effect of goods and services that are imported and used as inputs domestically. As imports data are provided on a basis that is not directly comparable to the COICOP classification of the CPI, these estimates should be regarded as indicative.
(b) Includes fuels and lubricants, electricity, gas, solid fuels and liquid fuels.

therefore, useful to consider measures of inflation that attempt to capture the rate at which only domestic costs and profit margins are changing, so-called 'domestically generated inflation' (DGI). While DGI is not directly observable, there are measures that are closely linked to DGI such as the rates of growth of unit labour costs or the GDP deflator.

While these DGI measures are volatile, an average suggests that DGI fell in 2010, and has remained relatively subdued but stable since then (**Chart C**). This provides further evidence that the recent falls in headline and core inflation measures are unlikely to have been driven by a significant weakening in domestic inflation.

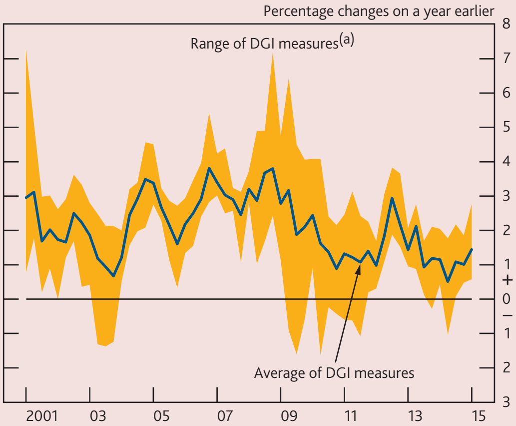
What can we learn from these measures about current CPI inflation?

As required by its remit, the MPC aims to meet a target of 2% headline CPI inflation. While measures of underlying inflation — such as core inflation and DGI — are not inflation rates that the MPC targets, they can be useful for understanding the drivers and dynamics of inflation.

Currently, measures of core and domestically generated inflation suggest that some of the current weakness in UK CPI inflation is due to volatile components, such as food and energy prices. Lower import prices have also been an important factor, and are likely to be a more persistent drag on headline CPI inflation. While domestic cost growth appears subdued, indicators of this have remained broadly stable over recent years.

Chart C Domestically generated inflation remains subdued but stable

Measures of domestically generated inflation

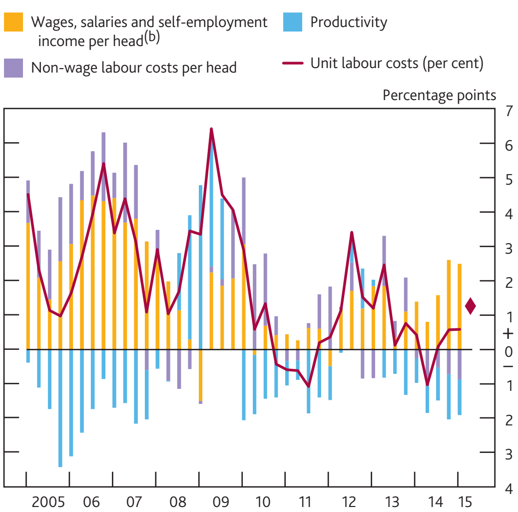


Sources: ONS and Bank calculations.

(a) Includes: whole-economy unit labour costs (as defined in footnote (a) of **Chart 4.7**), private sector unit wage costs (private sector AWE divided by private sector output), the GDP deflator, the GDP deflator excluding government and the services producer prices index.

Chart 4.7 Four-quarter unit labour cost growth probably picked up in 2015 Q2

Decomposition of four-quarter whole-economy unit labour cost growth[a]



Sources: ONS and Bank calculations.

(a) Unit labour costs are calculated as total labour costs divided by GDP, based on the backcast of the final estimate of GDP. Estimates are consistent with Bank staff's estimates of population growth. The diamond shows Bank staff's projection for 2015 Q2.
(b) Self-employment income is calculated from mixed income, assuming that the share of employment income in that is the same as the share of employee compensation in nominal GDP less mixed income.

— tend to affect CPI relatively quickly, while the prices of imported consumer goods — which have been rising — tend to take longer. The speed at which import prices affect consumer services prices will vary: some, such as package holidays, tend to be reflected in the CPI relatively quickly, while others are likely to take longer. Overall, import prices are likely to bear down on inflation for some time (Section 5).

Domestically produced food prices also tend to be closely linked to the price of imported food, in part because imports are used as inputs, and also due to competition from foreign producers. Lower imported and domestically produced food prices, along with the intensification of competition among UK supermarkets, have meant that retail food prices subtracted around 0.2 percentage points from inflation in June (**Chart 4.2**), and recent falls in imported food prices suggest that the outlook remains subdued.

4.3 Supply chain pressures

Businesses use raw materials, energy, imported goods and services, together with capital and labour, to produce the goods and services that are sold to consumers. Consumer prices, therefore, will depend on how these costs flow through the supply chain, together with the profit margin that businesses add to those costs. Labour costs constitute around 40% of total costs for companies, and are a key driver of inflation, particularly for consumer services, which in turn make up around 47% of the CPI basket. Consumer goods — excluding food, energy, and clothing and footwear — constitute another one third of the CPI basket and, since many of these goods are manufactured in the United Kingdom to some degree, manufacturing output prices are important determinants of inflation in this sector. Indeed, many indicators of manufacturing costs and prices are correlated with future developments in CPI core goods inflation (as indicated by the red cells in **Chart 4.6**).

Unit labour costs

While there have been some signs of a pickup in wage growth (Section 3), the extent to which this increases the labour cost of producing a unit of output will depend on the degree to which it is matched by higher productivity. Four-quarter growth in whole-economy unit labour costs was lower than expected in 2015 Q1, remaining at 0.6% (**Chart 4.7**). This was, in part, because four-quarter growth in the National Accounts measure of overall wages, salaries and self-employment income per head fell slightly to 3.0%, lower than had been expected. Non-wage costs were also weak, remaining lower than a year earlier, and productivity growth was slightly stronger than had been expected (Section 3). Four-quarter unit labour cost growth is expected to have picked up to 1.3% in 2015 Q2, and to strengthen further over the remainder of 2015, as the drag from non-wage costs eases.

Some components of overall labour costs, however, may be more important for consumer prices than others. For example, private sector pay will form a larger share of costs for companies providing consumer goods and services. In addition, changes in non-wage costs can often be erratic, so may not have a direct bearing on pricing decisions. Private sector unit wage costs based on the AWE measure of pay grew by a little under 2% in the four quarters to 2015 Q1, and are expected to grow at a similar rate on average over the rest of 2015.

Manufacturing cost pressures

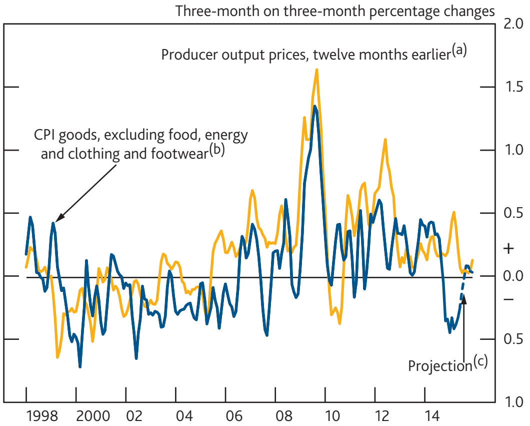
On average over the past, it has taken around one to two years for changes in producer output prices to pass through to the retail prices of consumer goods (**Chart 4.6**). Producer output prices have fallen over the past year, in part reflecting lower energy prices (Section 4.2). But even excluding energy, prices have been little changed recently (**Chart 4.8**), and, Bank staff expect only a small increase in core goods inflation over the next few months, which would add around 0.2 percentage points to inflation. According to industry surveys — which tend to lead changes in producer prices — there is little sign of cost pressures further up the manufacturing supply chain either (**Chart 4.9**), although as unit labour cost growth strengthens, it could put upward pressure on inflation in this sector.

Companies' margins and the outlook for consumer prices

The extent to which cost pressures feed through to consumer prices will depend on whether competitive pressures cause companies to keep prices low or demand growth (Section 2) instead allows them to raise margins. In aggregate, companies' profit margins appear to be around their past average (**Chart 4.10**), but some companies may use the opportunity of weak cost pressures to build higher margins.

Chart 4.8 Producer prices suggest a slight pickup in consumer goods inflation

CPI goods and producer output prices

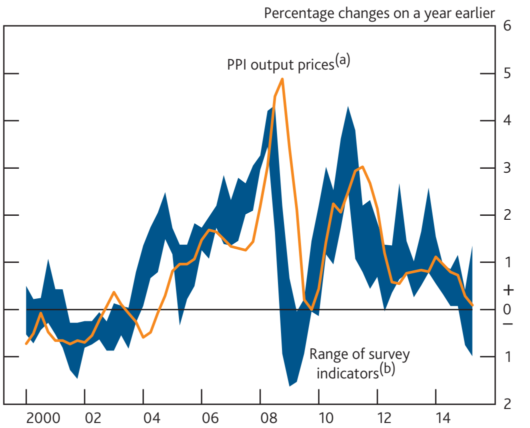


Sources: ONS and Bank calculations.

(a) Net sector output prices for all manufacturing excluding food, beverages, tobacco and petroleum. Seasonally adjusted by Bank staff.
(b) Excludes food, non-alcoholic beverages, energy, clothing and footwear and Bank staff estimates of the effect of VAT.
(c) Based on Bank staff projections for near-term CPI inflation.

Chart 4.9 Survey indicators imply little pressure on producer prices

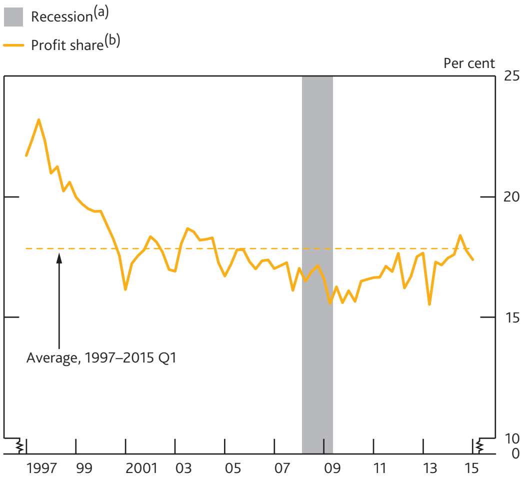
Indicators of manufacturing output prices



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

(a) Net sector output prices for all manufacturing excluding food, beverages, tobacco and petroleum.
(b) Measures included are based on surveys of manufacturing output prices from the Bank's regional Agents, BCC, CBI and Markit/CIPS. Scaled to match the mean and variance of the four-quarter change in PPI output prices, excluding food and fuel, since 2000.

Chart 4.10 Companies' margins appear around normal
Private non-financial corporate profit share (excluding the oil sector)



(a) A recession is defined as at least two consecutive quarters of falling output (at constant market prices) estimated using the latest data. The recession is assumed to end once output begins to rise.
(b) Gross trading profits of PNFCs (excluding continental shelf companies) less the alignment adjustment divided by nominal gross value added at factor cost.

Table 4.C Indicators of inflation expectations[a]

Per cent	2000 (or start of series) to 2007 averages[b]	Averages since 2008	2013	2014 H1	2014 Q3	2014 Q4	2015 Q1	2015 Q2	2015 Q3[c]
One year ahead inflation expectations									
Households[d]									
Bank/GfK	2.4	3.2	3.5	2.7	2.8	2.5	1.9	2.2	n.a.
Barclays Basix	2.8	3.0	2.8	2.4	2.4	1.9	1.7	1.3	n.a.
YouGov/Citigroup (Nov. 2005)	2.5	2.6	2.7	2.2	2.1	1.7	1.2	1.2	1.6
Companies (2008 Q2)[e]	n.a.	0.5	0.4	0.7	0.6	0.3	0.4	0.3	n.a.
Financial markets (Oct. 2004)[f]	2.6	2.7	3.0	2.9	3.0	2.6	2.5	2.6	2.6
Two to three year ahead expectations									
Households[d]									
Bank/GfK (2009 Q1)	n.a.	2.8	3.3	2.7	2.8	2.5	2.1	2.3	n.a.
Barclays Basix	3.2	3.2	3.2	2.8	2.7	2.3	2.2	1.7	n.a.
Professional forecasters (2006 Q2)[g]	2.0	2.1	2.2	2.1	2.1	2.1	2.1	2.1	2.1
Financial markets (Oct. 2004)[h]	2.8	3.0	3.1	3.1	3.1	3.0	2.9	3.1	3.2
Five to ten year ahead expectations									
Households[d]									
Bank/GfK (2009 Q1)	n.a.	3.2	3.6	3.1	3.4	3.0	2.8	2.8	n.a.
Barclays Basix (2008 Q3)	n.a.	3.7	3.8	3.7	3.8	3.1	3.4	2.8	n.a.
YouGov/Citigroup (Nov. 2005)	3.5	3.3	3.5	3.0	3.0	2.8	2.7	2.6	2.8
Financial markets (Oct. 2004)[i]	3.0	3.5	3.5	3.4	3.4	3.3	3.1	3.3	3.4
Memo: CPI inflation	1.6	2.7	2.6	1.7	1.5	0.9	0.1	0.0	n.a.

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

(a) Data are non seasonally adjusted.
(b) Dates in parentheses indicate start date of the data series.
(c) Financial markets data are averages from 1 July to 29 July 2015. YouGov/Citigroup data are for July.
(d) The household surveys ask about expected changes in prices but do not reference a specific price index, and the measures are based on the median estimated price change.
(e) CBI data for the manufacturing, business/consumer services and distribution sectors, weighted together using nominal shares in value added. Companies are asked about the expected percentage price change over the coming twelve months in the markets in which they compete.
(f) Instantaneous RPI inflation one year ahead implied from swaps.
(g) Bank's survey of external forecasters, inflation rate three years ahead.
(h) Instantaneous RPI inflation three years ahead implied from swaps.
(i) Five-year, five-year forward RPI inflation implied from swaps.

Overall, indicators of supply chain pressures appear subdued. The prices of food, energy and other goods are projected not to change significantly, but as past falls in these prices drop out of the annual comparison that will add around 1 percentage point to inflation. Further out, a tightening in the labour market is likely to put upward pressure on unit labour costs and inflation, consistent with inflation rising back to the 2% target within the next two years (Section 5).

4.4 Inflation expectations

The persistence of below-target CPI inflation will depend, in part, on inflation expectations, an important influence on households' and companies' spending, and wage and price-setting decisions. The MPC monitors a range of indicators to assess whether inflation expectations are well anchored.

Some measures of short-term inflation expectations picked up in Q2, although many of the household measures remain below their historical averages (**Table 4.C**). Those would, however, be expected to respond to actual inflation and the near-term inflation outlook, which both remain low.

Longer-term inflation expectations are potentially more informative when judging whether expectations remain well anchored. The average of expectations of professional forecasters at the two to three-year horizon is unchanged since May, remaining consistent with its historical average (**Table 4.C**). Measures derived from financial market prices, such as from swaps, rose in Q2 and increased further in July, but also remain close to their historical averages. The weight that financial market participants appear to place on future deflation has fallen (Section 1).

Measures of longer-term household inflation expectations remain below their historical averages. While both the Bank/GfK and the YouGov/Citigroup measures were broadly unchanged in Q2, the Barclays Basix five-year measure fell markedly. As set out in a recent *Quarterly Bulletin* article, however, these lower household inflation expectations do not, as yet, appear to have materially affected wage growth, consumer spending or CPI inflation.[1] Furthermore, the YouGov/Citigroup measure ticked up in July.

Overall, the MPC judges that inflation expectations remain well anchored, although there remains a risk that lower expectations affect wage and price-setting decisions, causing low inflation to be more persistent. The MPC will continue to monitor these measures of expectations closely.

(1) See Domit, S, Jackson, C and Roberts-Sklar, M (2015), 'Do inflation expectations currently pose a risk to inflation?', *Bank of England Quarterly Bulletin*, Vol. 55, No. 2, pages 165–80; www.bankofengland.co.uk/publications/Documents/quarterlybulletin/2015/q205.pdf.

5 Prospects for inflation

CPI inflation was 0.0% in June, well below the MPC's 2% target. That undershoot largely reflects external factors but domestic cost pressures have also been weak. Inflation is projected to rise around the turn of the year as past falls in energy prices begin to drop out of the annual comparison. Thereafter, domestic pressures are likely to build alongside a steady expansion in demand, which absorbs the remaining economic slack. The MPC judges that it is currently appropriate to set policy so that it is likely that inflation will return to the 2% target within two years. Conditional on a gradual rise in Bank Rate, such as that currently implied by market yields, that is judged likely to be achieved.

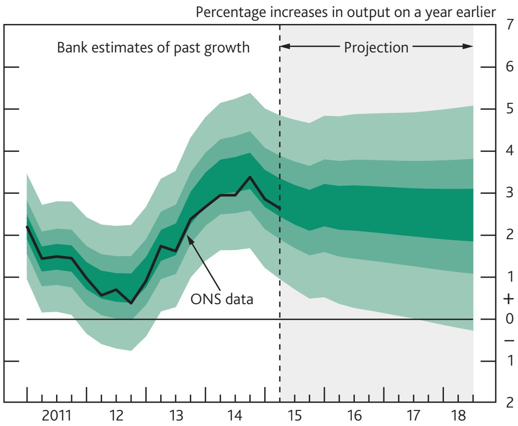
Table 5.A Conditioning path for Bank Rate implied by forward market interest rates[a]

Per cent

	2015		2016				2017				2018		
	Q3[b]	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3
August	0.5	0.5	0.6	0.7	0.9	1.0	1.2	1.3	1.4	1.5	1.6	1.7	1.7
May	0.5	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.3	1.4	

(a) The data are fifteen working day averages of one-day forward rates to 29 July 2015 and 7 May 2015 respectively. The curve is based on overnight index swap rates.
(b) August figure for 2015 Q3 is an average of realised spot rates to 29 July 2015, and forward rates thereafter.

Chart 5.1 GDP projection based on market interest rate expectations and £375 billion purchased assets



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 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 outturns 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. See the box on page 39 of the November 2007 *Inflation Report* for a fuller description of the fan chart and what it represents.

Since the May *Report*, UK activity has continued to expand. Growth was solid in Q2 after a weak Q1 and, following revisions, growth over the past year was stronger than thought three months ago. CPI inflation has remained close to zero, as expected, and most measures of core inflation are around 1%. As set out in the Governor's letter to the Chancellor, around three quarters of the weakness in headline inflation relative to the 2% target reflects unusually low contributions from energy, food and other imported goods prices.[1] The remaining part of the undershoot is judged to reflect relatively weak domestic cost growth, given a continuing, albeit declining, drag from slack. Domestic cost growth has remained subdued since the May *Report*, as productivity has strengthened alongside pay growth.

The MPC's projections are conditioned on a higher exchange rate and a slightly steeper path for Bank Rate than those in the May *Report*. The conditioning path for Bank Rate rises from early 2016 to reach 1.7% by 2018 Q3 (**Table 5.A**),[2] around ¼ percentage point higher than in May. The sterling effective exchange rate has risen by a further 3½%, and is now 20% above its 2013 trough. Conditional on that path for Bank Rate and a broadly flat exchange rate, four-quarter GDP growth is likely to fall back from rates seen in 2014, and settle a little above 2½% (**Chart 5.1**). Output grows slightly faster than potential supply so that the degree of remaining slack is absorbed and cost growth picks up. CPI inflation returns to the 2% target within two years before rising a little above it in the

(1) That letter can be found at www.bankofengland.co.uk/monetarypolicy/Documents/pdf/cpiletter060815.pdf.
(2) Unless otherwise stated, the projections shown in this section are conditioned on: Bank Rate following a path implied by market yields; a constant stock of asset purchases; the Recommendations of the Financial Policy Committee and the current regulatory plans of the Prudential Regulation Authority; the Government's tax and spending plans as set out in the *Summer Budget 2015*; commodity prices following market paths; and the sterling exchange rate remaining broadly stable. The main assumptions are set out in a table at www.bankofengland.co.uk/publications/Documents/inflationreport/2015/augca.pdf.

Chart 5.2 CPI inflation projection based on market interest rate expectations and £375 billion purchased assets

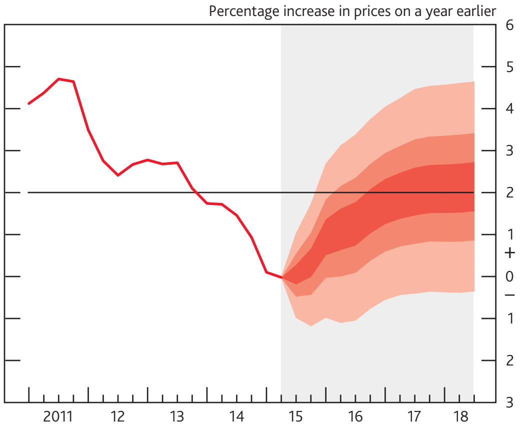
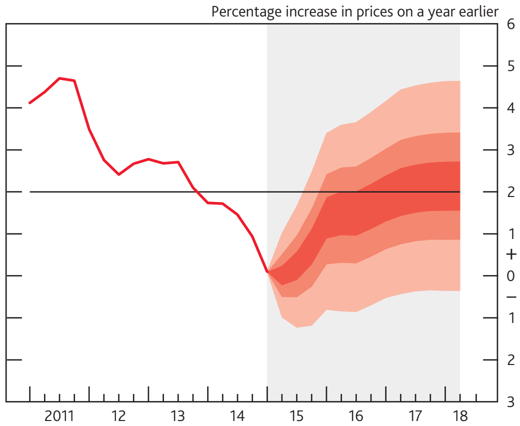
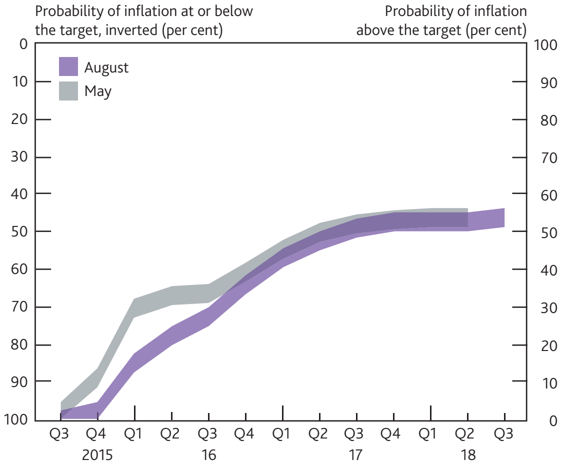


Chart 5.3 CPI inflation projection in May based on market interest rate expectations and £375 billion purchased assets



Charts 5.2 and **5.3** depict the probability of various outcomes for CPI inflation in the future. They have been conditioned on the assumption that the stock of purchased assets financed by the issuance of central bank reserves remains at £375 billion throughout the forecast period. If economic circumstances identical to today's were to prevail on 100 occasions, the MPC's best collective judgement is that inflation in any particular quarter would lie within the darkest central band on only 30 of those occasions. The fan charts are constructed so that outturns 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. 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.

Chart 5.4 Inflation probabilities relative to the target



The August and May swathes in this chart are derived from the same distributions as **Charts 5.2** and **5.3** respectively. They indicate the assessed probability of inflation relative to the 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.

third year (**Chart 5.2**), as sustained growth leads to a degree of excess demand. Both those projections are very similar to those in the May *Report* in the medium term (**Chart 5.4**).

The projections for growth and inflation are underpinned by four key judgements. First, moderate global growth continues as international risks are contained. Risks to global growth are judged to be skewed moderately to the downside reflecting, for example, risks to growth in the euro area and China. Second, UK private domestic demand grows robustly, supported by sustained real income growth and a gradual decline in private sector savings. That allows UK GDP to grow close to past average rates, despite the modest global backdrop and the continuing fiscal consolidation.

Sustained real income growth in turn relies on a third key judgement that wage growth will continue to rise, reaching just over 4%, underpinned by an absorption of slack and strengthening in productivity growth. Productivity growth has picked up in the latest data, but there is uncertainty about how much of a signal to take from that following a sustained period of weakness. The fourth key judgement is that the drag on inflation from external factors dissipates, as stronger domestic cost growth returns inflation to the 2% target. There is, though, particular uncertainty about how much and for how long the appreciation of sterling will weigh on UK inflation.

In light of the economic outlook, at its meeting ending on 5 August the MPC voted to maintain Bank Rate at 0.5% and the stock of purchased assets at £375 billion. The factors behind that decision are set out in the Monetary policy summary on pages i–ii of this *Report*, and in more detail in the minutes of the meeting.(1)

(1) The minutes are available at www.bankofengland.co.uk/publications/minutes/Documents/mpc/pdf/2015/aug.pdf.

Table 5.B MPC key judgements[(a)(b)]

Key Judgement 1: moderate global growth continues as international risks are contained

	Average 1998–2007	Projections 2015	2016	2017
World GDP (UK-weighted)[(c)]	3	2¼ (2¼)	2¾ (2¾)	2¾ (2¾)
World GDP (PPP-weighted)[(d)]	4	3¼ (3¼)	3¾ (3¾)	3½ (3¾)
Euro-area GDP[(e)]	2¼	1½ (1½)	1¾ (2)	1¾ (2)
US GDP[(f)]	3	2½ (2½)	2¾ (2½)	2¼ (2¼)

Key Judgement 2: private domestic demand grows robustly, supported by sustained real income growth and a gradual decline in private sector savings

	Average 1998–2007	Projections 2015	2016	2017
Credit spreads[(g)]	¾[(h)]	2 (2)	2 (2)	2 (2)
Household saving ratio[(i)]	8¾	5¼ (6¼)	5 (6)	4½ (5½)
Business investment to GDP ratio[(j)]	10	10¾ (10½)	11¼ (11)	12 (11¾)

Key Judgement 3: wage growth continues to rise, underpinned by an absorption of slack and strengthening in productivity growth

	Average 1998–2007	Projections 2015	2016	2017
Productivity[(k)]	2¼	1 (¼)	1 (1¼)	1½ (1¾)
Participation rate[(l)]	63	63½ (63½)	63½ (63½)	63½ (63½)
Average hours[(m)]	32¼	32¼ (32¼)	32½ (32½)	32¼ (32¼)

Key Judgement 4: the drag on inflation from external factors dissipates, as stronger domestic cost growth returns inflation to the 2% target

	Average 1998–2007	Projections 2015	2016	2017
UK import prices[(n)]	¼	-5½ (-4¾)	¾ (1¼)	¾ (¾)
Unit labour costs[(o)]	2¾	2 (1½)	3 (3)	3 (2¾)
Dollar oil price[(p)]	39	57 (68)	62 (71)	66 (73)

Sources: Bank of England, BDRC Continental *SME Finance Monitor*, Bloomberg, BofA Merrill Lynch Global Research, used with permission, British Household Panel Survey, Department for Business, Innovation and Skills, Eurostat, IMF *World Economic Outlook* (*WEO*), ONS, US Bureau of Economic Analysis and Bank calculations.

(a) The MPC's projections for GDP growth, CPI inflation and unemployment (as presented in the fan charts) are underpinned by four key judgements. The mapping from the key judgements to individual variables is not precise, but the profiles in the table should be viewed as broadly consistent with the MPC's key judgements.
(b) Figures show calendar-year growth rates unless otherwise stated. Figures in parentheses show the corresponding projections in the May 2015 *Inflation Report*.
(c) Chained-volume measure. Constructed using real GDP growth rates of 146 countries weighted according to their shares in UK exports.
(d) Chained-volume measure. Constructed using real GDP growth rates of 147 countries weighted according to their shares in world GDP using the IMF's purchasing power parity (PPP) weights.
(e) Chained-volume measure.
(f) Chained-volume measure.
(g) Level in Q4. Percentage point spread over reference rates. Based on a weighted average of household and corporate loan and deposit spreads over appropriate risk-free rates. Indexed to equal zero in 2007 Q3.
(h) Based on the weighted average of spreads for households and large companies over 2003 and 2004 relative to the level in 2007 Q3. Data used to construct the SME spread are not available for that period. The period is chosen as broadly representative of one where spreads were neither unusually tight nor unusually loose.
(i) Calendar-year average. Percentage of total available household resources.
(j) Calendar-year average. Chained-volume business investment as a percentage of GDP.
(k) GDP per hour worked. GDP at market prices is based on the mode of the MPC's backcast. Hours worked have been adjusted for expected revisions to the ONS population estimates to incorporate the latest data on net migration.
(l) Level in Q4. Percentage of the 16+ population.
(m) Level in Q4. Average weekly hours worked, in main job and second job.
(n) Four-quarter inflation rate in Q4. Excludes the impact of missing trader intra-community fraud.
(o) Four-quarter growth in unit labour costs in Q4. Whole-economy total labour costs divided by GDP at market prices, based on the mode of the MPC's GDP backcast. Total labour costs comprise compensation of employees and the labour share multiplied by mixed income.
(p) Average level in Q4. Dollars per barrel. Projection based on monthly Brent futures prices.

5.1 Key judgements and risks

The Committee's four key judgements are described in more detail below. **Table 5.B** provides projections for variables that illustrate those judgements; **Table 5.C** provides a range of indicators to monitor them; and **Table 5.D** shows indicative projections for a range of other variables.

Key Judgement 1: moderate global growth continues as international risks are contained

The UK economy is sensitive to events elsewhere in the world. The euro-area recovery has continued, with GDP growth at 0.4% in Q1, as expected, and a similar pace expected in Q2. The pickup in growth from sluggish rates in 2014 reflects the boost from lower oil prices, improved credit conditions, a weaker euro and support from the ECB's asset purchase programme. The effects of policy support are expected to build over the next year or so, taking growth close to 2% in 2016 (**Chart 5.5**), causing slack gradually to narrow and helping inflation to pick up from its current low level.

The euro-area growth projection is a touch weaker in the near term than three months ago. That largely reflects downward revisions to the outlook for Greek activity, following the imposition of capital and banking controls. The risks of a disorderly outcome in Greece in the near term are judged to have fallen. Agreeing and implementing a sustainable solution, including debt relief measures, will, however, be challenging. A disorderly outcome still presents a downside risk to euro-area and UK activity over the forecast period.

US output growth rose in Q2, following weakness in Q1. The labour market has continued to tighten, with unemployment falling further. The projection is conditioned on a market-implied path for the federal funds rate, which rises from the turn of the year. Growth continues under those conditions, although at a somewhat slower rate than before the crisis (**Table 5.B**). Risks remain to that outlook. Recent weakness in productivity growth could persist, or alternatively unwind more quickly than the gentle rise assumed. There is also uncertainty about the impact of a rise in US interest rates. For example, while a rise is widely anticipated, it could nonetheless be associated with financial market volatility in the United States and elsewhere.

China has recently experienced significant equity market volatility. Following a 150% rise over the preceding year, equity prices have fallen around 30% since mid-June (Section 1). These falls are associated with a slightly weaker outlook for Chinese activity, largely reflecting an assumed small hit to confidence. Overall, annual Chinese growth is projected to slow further, to around 6¼% by 2017, as policymakers continue their efforts to rebalance the economy away from external demand and investment towards

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

The Committee's projections are underpinned by four key judgements. Risks surround all of these, and the MPC will monitor a broad range of variables to understand the degree to which the risks are crystallising. The table below shows Bank staff's indicative near-term projections that are consistent with the judgements in the MPC's central view evolving as expected.

Key judgement	Likely developments in 2015 Q3 to 2016 Q1 if judgements evolve as expected
1: moderate global growth continues as international risks are contained	• Quarterly euro-area growth to average around ½%. • Euro-area inflation is expected to remain weak in the coming months, but will begin to pick up towards the end of the year. • Quarterly US GDP growth to average a little below ¾%; non-farm payrolls to increase by around 250,000 per month. • Indicators of activity consistent with four-quarter PPP-weighted emerging-economy growth of around 4¼% on average; within that, Chinese GDP growth to average around 6½%. • Average quarterly growth in UK exports of slightly below ½%.
2: private domestic demand grows robustly, supported by sustained real income growth and a gradual decline in private sector savings	• Quarterly consumption growth a little above ¾%. • Saving ratio of 5½% by 2016 Q1. • Credit spreads to decline slightly. • A rise in mortgage approvals for house purchase to around 70,000 a month, on average, in 2015 Q4. • Rates of increase in the main indices of national house prices to average just over ½% a month in 2015 Q4 and 2016 Q1. • Quarterly housing investment growth to average around 1%. • Quarterly business investment growth of around 1½%.
3: wage growth continues to rise, underpinned by an absorption of slack and strengthening in productivity growth	• Quarterly hourly labour productivity growth to average a little under ¼%. • Headline LFS unemployment to fall slightly to 5½% by the end of the year. • Participation rate to pick up slightly over the rest of the year to a little under 63½%. • Average hours to increase by around ½% over the rest of the year. • Four-quarter AWE growth to remain around 3¼% in Q3 before temporarily dipping to 3% in Q4 due to strong bonuses in 2014 Q4, and reaching 3½% by 2016 Q1.
4: the drag on inflation from external factors dissipates, as stronger domestic cost growth returns inflation to the 2% target	• Four-quarter growth in whole-economy unit labour costs to reach 2% by the end of the year. • Commodity prices and sterling ERI to evolve in line with the conditioning assumptions set out in www.bankofengland.co.uk/publications/Documents/inflationreport/2015/augca.pdf. • Petrol and diesel prices to fall by around 4% in Q3. • Domestic gas prices to fall by 5% by the end of the year. Domestic electricity prices to remain flat. • Import prices to be broadly flat in 2015 Q4 and 2016 Q1. • Indicators of inflation expectations continue to be broadly consistent with the 2% target.

household spending. There remains considerable uncertainty around how smooth that rebalancing will be.

UK-weighted world output is projected to expand at a moderate pace, with growth in both advanced and emerging economies a little below pre-crisis average rates (**Table 5.B**). Relative to the past few years, however, growth in the advanced economies is a touch faster, while growth in China and some other emerging economies is slower. The MPC judges the risks to the global growth outlook to be skewed moderately to the downside.

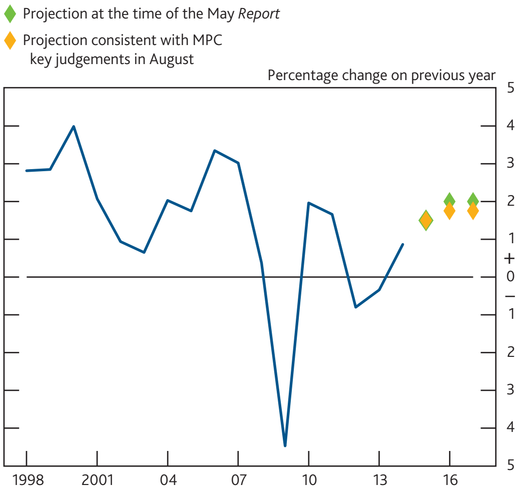
The share of world demand that UK exporters can attain over the forecast period will be constrained by the marked rise in sterling over the past two years. The rise in sterling also

Table 5.D Indicative projections consistent with the MPC's modal projections[(a)]

	Average 1998–2007	Projections 2015	2016	2017
Household consumption[(b)]	3¾	3¼ (2¾)	3¼ (3)	3 (2¾)
Business investment[(c)]	2¼	4¾ (2½)	7¼ (6¾)	8½ (8¼)
Housing investment[(d)]	3¾	6½ (1)	4½ (3¼)	4 (5)
Exports[(e)]	4½	5½ (4)	2½ (3½)	2½ (3)
Imports[(f)]	6	4 (4¼)	3¼ (3½)	4 (3½)
Real post-tax household income[(g)]	3	2½ (3¼)	3 (2½)	2½ (2¼)
Employment[(h)]	1	1¼ (1¾)	1¼ (1)	1 (¾)
Average weekly earnings[(i)]	4¼	3 (2½)	3¾ (4)	4¼ (4)

(a) These projections are produced by Bank staff for the MPC to be consistent with the MPC's modal projections for GDP growth, CPI inflation and unemployment. Figures show calendar-year growth rates unless otherwise stated. Figures in parentheses show the corresponding projections in the May 2015 *Inflation Report*.
(b) Chained-volume measure. Includes non-profit institutions serving households.
(c) Chained-volume measure.
(d) Chained-volume measure. Whole-economy measure. Includes new dwellings, improvements and spending on services associated with the sale and purchase of property.
(e) Chained-volume measure. The historical data exclude the impact of missing trader intra-community (MTIC) fraud. Official MTIC-adjusted data are not available for exports, so headline exports data have been adjusted by Bank staff for MTIC fraud by an amount equal to the ONS import adjustment.
(f) Chained-volume measure. The historical data exclude the impact of MTIC fraud.
(g) Total available household resources deflated by the consumer expenditure deflator.
(h) Four-quarter growth rate in Q4. Series has been adjusted for expected revisions to the ONS population estimates to incorporate the latest data on net migration.
(i) Four-quarter growth in Q4 in whole-economy total pay.

Chart 5.5 Euro-area GDP[(a)]



Sources: Eurostat and Bank calculations.

(a) Calendar-year growth rates. Chained-volume measure.

supports UK import growth. Exports are therefore projected to grow more slowly than imports (**Table 5.D**), and net trade drags on growth throughout the forecast period. There remains considerable uncertainty around how much further and how rapidly the appreciation will dampen net trade.

Despite the past rise in sterling, the trade deficit in Q2 looks to have been the smallest relative to GDP since 1998. The current account deficit is nevertheless likely to have remained large, reflecting the substantial deficit on primary income as returns on UK companies' investments abroad have weakened and returns on foreign companies' UK investments have strengthened. In the central projection, the trade deficit widens and the income balance remains in significant deficit. It is possible, however, that as activity in the euro area picks up, higher returns on foreign investment reduce that deficit, with an associated boost to private sector income.

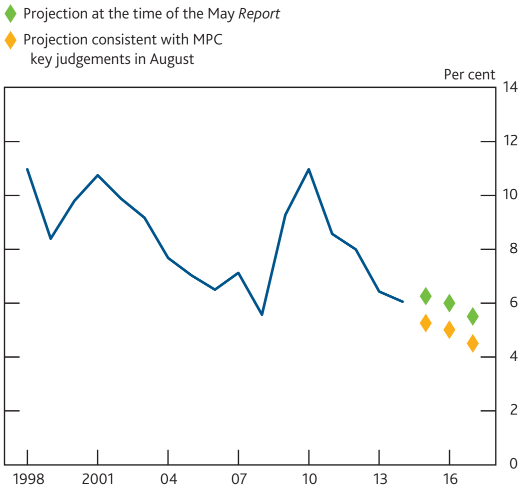
Key Judgement 2: private domestic demand grows robustly, supported by sustained real income growth and a gradual decline in private sector savings

The United Kingdom is in the middle of a substantial fiscal consolidation. Given that and below-average support from the world, GDP can grow at close to past average rates only if private domestic demand grows at above-average rates.

The *Summer Budget 2015* set out how government borrowing would be reduced in coming years. Although the overall path of the consolidation was not much changed, a little less of it takes place during the MPC's three-year forecast period than was the case in the May projections, with more happening in future years. The consolidation includes a number of measures, including reductions in departmental spending relative to GDP, cuts in some welfare payments and higher taxes. These are likely to have differing effects on GDP both in terms of their initial impact and how long they drag on demand. For example, a reduction in public investment reduces GDP directly. The effects of other measures, such as changes to public sector pay or taxes, may take longer to feed through and depend on how households and companies react to changes in their income. The overall drag on activity from the consolidation is uncertain. It will depend on factors such as the proportion of people who are credit constrained, and therefore cannot smooth through changes in their income, and the extent to which some households and companies have anticipated the changes and have already adjusted their spending.

In the household sector, real income growth is projected to be 2½% in 2015, the highest annual rate since 2007. Some of that strength reflects a temporary boost from lower oil prices, while momentum is maintained over the forecast period thanks to stronger wage growth. There remains considerable uncertainty around the path for income, stemming in particular from the risks around productivity

Chart 5.6 Household saving ratio[(a)]



Sources: ONS and Bank calculations.

(a) Calendar-year average. Percentage of total available household resources.

growth (Key Judgement 3). Consumption grows just a little faster (**Table 5.D**) than income over the forecast period such that the saving ratio falls gradually (**Chart 5.6**). That fall is consistent with less precautionary saving by households, given a brighter economic outlook and improvements in credit availability (Section 2). Risks around that path remain in both directions. For example, there is uncertainty around the sensitivity of household spending to past improvements in credit conditions and the gradual rises in Bank Rate that are assumed to take place over the forecast period.

Some of the factors boosting consumption growth are also supporting the housing market. In particular, credit conditions have improved substantially in recent years and mortgage interest rates are now at or near record lows. After a period of subdued activity, housing transactions and mortgage approvals rose in Q2. Approvals were stronger than expected and are projected to rise further in coming years, albeit to a lesser extent than anticipated a year or so ago. The latest data also suggest a stronger picture for housing investment than three months ago (Section 2) and it is expected to grow at above-average rates over the forecast period (**Table 5.D**). Annual house price inflation was around 7% in Q2, and is expected to rise a little further in the near term before slowing towards growth in nominal incomes.

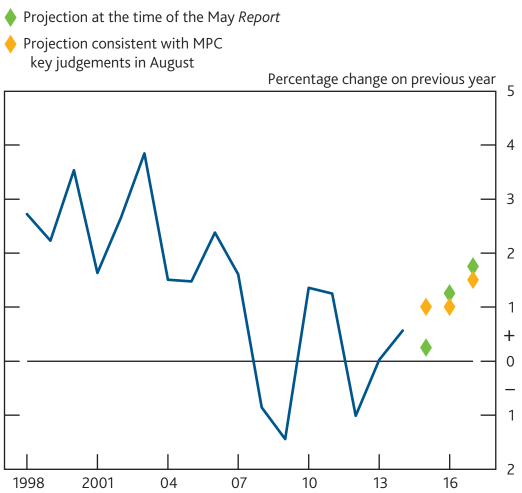
Four-quarter business investment growth has slowed a little over the recent past though it remains solid, at around 5%. The outlook for business investment remains strong, supported by the low real cost of capital, businesses' relatively high confidence about demand for their products, and a growing need to expand capacity. Over the forecast period, overall business investment is projected to grow by 7%–8% a year from 2016, despite substantial expected reductions in capital spending in the oil and gas sector. That growth is associated with an increasing financial deficit as companies increase borrowing or spend cash balances. There remains a risk that businesses will be unwilling to increase investment to the extent assumed in the central projection, especially if global political or economic uncertainty were to increase.

Key Judgement 3: wage growth continues to rise, underpinned by an absorption of slack and strengthening in productivity growth

Since the May *Report* there has been news in both labour market quantities and prices. Total hours worked have been significantly weaker than expected, suggesting a sharp rise in productivity in Q2, while wage growth has been stronger than expected. Combining all the evidence, including top-down measures of slack, which have changed little, the MPC's best collective judgement is that slack currently remains in the region of ½% of GDP, although there remains substantial uncertainty about that judgement with a range of views among MPC members. The remaining slack is likely to be absorbed over the next year or so. Over the forecast period, labour supply growth slows and productivity growth picks up towards its past historical average rate. Together, the absorption of slack and sustained productivity growth cause wage growth to rise to a little over 4%.

There remains uncertainty around the current extent of spare capacity in the economy. At the start of the forecast period, participation and average hours are lower, and unemployment higher, than expected three months ago, suggesting a little more labour market slack. At the same time, survey indicators of capacity use have strengthened, pointing to less spare capacity within companies. In the central projection, these are judged to have broadly offsetting effects on slack. That judgement is uncertain. Companies' assessment of normal capacity may have drifted down during the sustained period of weak activity. If so, survey responses would understate spare capacity. Alternatively, if higher household real incomes have dissuaded some people from working longer hours or potential second earners from seeking work at all, the recent drop in employment might be partly structural. In that case there would be less slack in the labour market than implied in the central projection. The slowdown in employment growth might also indicate more mismatch between employment supply and demand, as the labour market tightens.

Chart 5.7 Productivity[(a)]



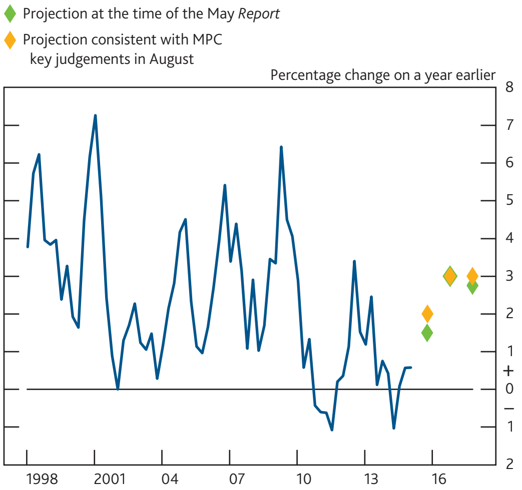
Sources: ONS and Bank calculations.

(a) Calendar-year growth rates. GDP per hour worked. GDP is at market prices and projections are based on the mode of the MPC's backcast. Hours worked have been adjusted for expected revisions to the ONS population estimates to incorporate the latest data on net migration.

The outlook for productivity is also uncertain. While official data to May suggest that hours worked were unchanged in Q2, surveys of companies suggest continued labour demand growth. Hours worked are therefore judged likely to pick up in Q3, and measured productivity growth to fall back. Even so, taken together with upward revisions to earlier quarters, productivity is just over 1% higher than expected three months ago. Over the forecast period, productivity growth is expected to rise back slowly towards its long-term average rate (**Chart 5.7**). That rise in part reflects an unwinding of compositional effects — for example, employment growth being concentrated in lower-skilled roles with below-average pay and productivity — that are judged to have held back overall wage and productivity growth over the past year or so (Section 3). It also reflects the waning impact of the financial crisis as looser credit conditions and higher investment help resources to be reallocated towards more productive uses. The rise in productivity growth is a little slower than projected three months ago as some of the recent strength is judged to be cyclical and hence temporary. It is, however, also possible that the recent data provide a signal that the long-awaited revival in productivity growth is happening more rapidly than the Committee has assumed.

The paths for slack and productivity determine the outlook for wage growth. Four-quarter AWE growth has picked up over recent quarters from rates of around 1% in 2014 to probably around 3% in Q2. Although much of the unexpected strength in wage growth since the May *Report* reflects bonuses, and so may be transitory, regular pay growth has also been

Chart 5.8 Unit labour costs[(a)]



Sources: ONS and Bank calculations.

(a) Whole-economy total labour costs divided by GDP at market prices, based on the mode of the MPC's GDP backcast. Total labour costs comprise compensation of employees and the labour share multiplied by mixed income. The chart shows data to 2015 Q1 and projections for four-quarter growth in Q4 thereafter.

Table 5.E Calendar-year GDP growth rates of the modal, median and mean paths[(a)]

	Mode	Median	Mean
2015[(b)]	2.8 (2.6)	2.8 (2.5)	2.8 (2.5)
2016[(b)]	2.7 (2.6)	2.6 (2.6)	2.6 (2.6)
2017	2.6 (2.5)	2.5 (2.4)	2.5 (2.4)

(a) The table shows the projections for calendar-year growth of real GDP consistent with the modal, median and mean projections for four-quarter growth of real GDP implied by the fan chart. Where growth rates depend in part on the MPC's backcast, revisions to quarterly growth are assumed to be independent of the revisions to previous quarters. The numbers in parentheses show the corresponding projections in the May *Inflation Report*. The August and May projections have been conditioned on market interest rates, and the assumption that the stock of purchased assets financed by the issuance of central bank reserves remains at £375 billion throughout the forecast period.
(b) The anticipated revisions to recent estimates of quarterly GDP growth has implications for calendar-year growth in 2015. Without the anticipated revisions to past GDP growth, the modal path of the Committee's August projections would imply calendar-year growth of 2.6% in 2015 rather than 2.8%.

Table 5.F Q4 CPI inflation

	Mode	Median	Mean
2015 Q4	0.4 (0.7)	0.3 (0.7)	0.3 (0.6)
2016 Q4	1.6 (1.7)	1.5 (1.6)	1.5 (1.6)
2017 Q4	2.1 (2.1)	2.1 (2.1)	2.1 (2.1)

The table shows projections for Q4 four-quarter CPI inflation. The numbers in parentheses show the corresponding projections in the May *Inflation Report*. The August and May projections have been 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.

strengthening. That could, in part, reflect some unwinding of the compositional effects that are estimated to have pulled down annual wage growth by around 1 percentage point in the past year or so (Section 3). With rises in both productivity and pay, four-quarter unit labour cost growth is likely to have been subdued in Q2, albeit higher than in 2014. In the central projection, as slack continues to be absorbed, pay and cost growth rise to more normal rates (**Chart 5.8**). That includes a small uplift to aggregate wage growth reflecting increased pay for low earners following the introduction of the National Living Wage (see the box on page 24). Pay and hence unit labour cost growth could be weaker if current low CPI inflation affects pay setting by more than assumed, although the pickup in wage growth suggests that the risk of such an effect has receded. They could be stronger if companies face increasing difficulties retaining or attracting staff, as some surveys indicate.

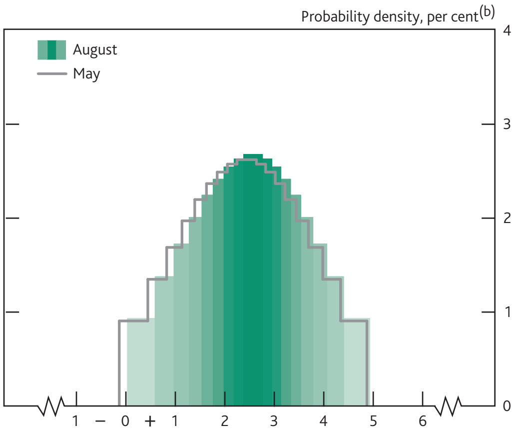
Key Judgement 4: the drag on inflation from external factors dissipates, as stronger domestic cost growth returns inflation to the 2% target

Weakness in domestic labour cost growth has been one factor bearing down on CPI inflation in recent years. But the main contributors to low inflation over the past year have been the falls in prices of oil, food and other traded goods. Much of the decline in oil prices occurred in late 2014 and the drag on annual CPI inflation from petrol will get smaller as those declines drop out of the twelve-month comparison. But the 12% fall in dollar oil prices since May, together with further reductions in domestic gas prices (Section 4), mean the drag from domestic energy prices lasts longer than expected three months ago. There are risks from further moves in commodity prices, stemming from both the global demand outlook (Key Judgement 1) and prospects for supply, particularly in the oil sector (Section 1).

Non-energy import costs are also likely to bear down on inflation for some time. These depend both on the prices charged in global markets and on the sterling exchange rate. Foreign export price inflation has been fairly subdued in recent years and the exchange rate has appreciated significantly since 2013 (Section 4). Import prices have not, however, fallen by as much as might have been expected. Given the time that has now passed since sterling began to rise, the MPC judges that the earlier appreciation will be associated with somewhat less of a fall in import prices than previously assumed. The associated drag on inflation is therefore smaller than in the May projection. There remains considerable uncertainty, however, about the impact of sterling's appreciation both in terms of its duration as well as its extent. In the central projection the drag on CPI inflation from lower import prices is expected to persist for much of the forecast period.

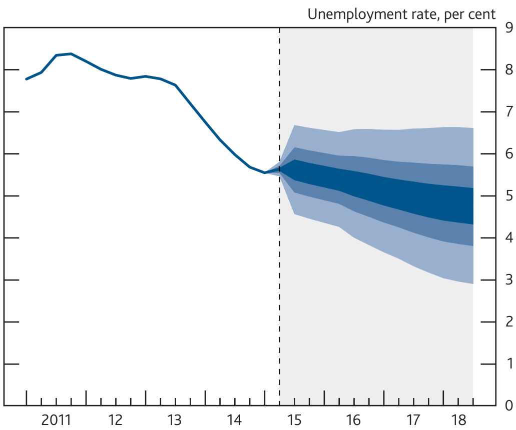
In the central projection, the continuing drag from import prices is offset by the strength of unit labour cost growth such that inflation returns to the 2% target within two years, before rising a little above it in the third year. The MPC judges that inflation expectations remain well anchored and companies' price and wage-setting decisions are not significantly affected by the period of below-target inflation. Although some measures of household inflation expectations remain below their past averages, financial market measures have risen since May and are back around their past average rates.

Chart 5.9 Projected probabilities of GDP growth in 2017 Q3 (central 90% of the distribution)(a)



(a) **Chart 5.9** represents the cross-section of the GDP growth fan chart in 2017 Q3 for the market interest rate projection. It has been conditioned on the assumption that the stock of purchased assets 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. The grey outline represents the corresponding cross-section of the May 2015 *Inflation Report* fan chart, which was conditioned on market interest rates and the same assumption about the stock of purchased assets financed by the issuance of central bank reserves.
(b) Average probability within each band; the figures on the y-axis indicate the probability of growth being within ±0.05 percentage points of any given growth rate, specified to one decimal place.

Chart 5.10 Unemployment projection based on market interest rate expectations and £375 billion purchased assets



The fan chart depicts the probability of various outcomes for LFS unemployment. It has been conditioned on the assumption that the stock of purchased assets financed by the issuance of central bank reserves remains at £375 billion throughout the forecast period. The coloured bands have the same interpretation as in **Chart 5.2**, and portray 90% of the probability distribution. The calibration of this fan chart takes account of the likely path dependency of the economy, where, for example, it is judged that shocks to unemployment in one quarter will continue to have some effect on unemployment in successive quarters. The fan begins in 2015 Q2, a quarter earlier than the fan for CPI inflation. That is because Q2 is a staff projection for the unemployment rate, based in part on data for April and May. The unemployment rate was 5.6% in the three months to May, and is projected to be 5.6% in Q2 as a whole. In the later part of the forecast period, a significant proportion of this distribution lies below Bank staff's current estimate of the long-term equilibrium unemployment rate. There is therefore uncertainty about the precise calibration of this fan chart.

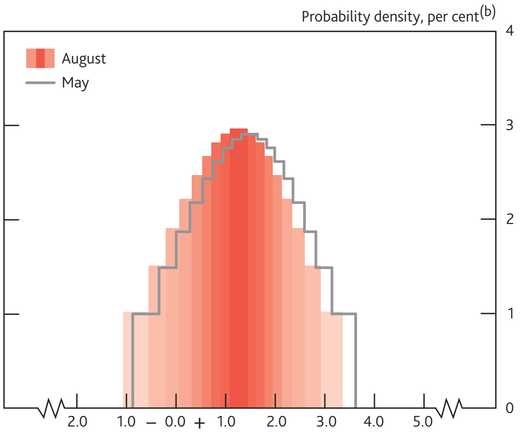
5.2 The projections for demand, unemployment and inflation

Based on these judgements and the risks around them, and under the conditioning path for Bank Rate based on market yields, which rises to 1.7% by 2018 Q3, the Committee judges that four-quarter GDP growth is likely to fall back from rates seen in 2014, and settle a little above 2½% (**Table 5.E**). Over the forecast period, growth is supported by robust private spending, particularly investment, against a modest global backdrop and a further fiscal consolidation. The MPC judges the risks to the projection to be weighted moderately to the downside throughout the forecast period (**Chart 5.9**), reflecting the possibility of weaker global demand. Overall, the projection is broadly similar to that of three months ago, despite a higher path for Bank Rate and the sterling ERI. That is because the impact of these has been offset by other factors including a slightly smaller drag from the fiscal consolidation and modestly lower credit spreads.

The MPC's projections are underpinned by a gradual return to more normal rates of productivity growth. That is associated with slowing employment growth and only a modest further fall in unemployment. In the central projection, unemployment starts the projection a little above that in May but, as the level of productivity returns towards its May path, ends it at a similar level, a little below the assumed long-term equilibrium rate of around 5% (**Chart 5.10**). Overall, slack is projected to be absorbed over the forecast period, although there remains considerable uncertainty about this judgement with a range of views among MPC members.

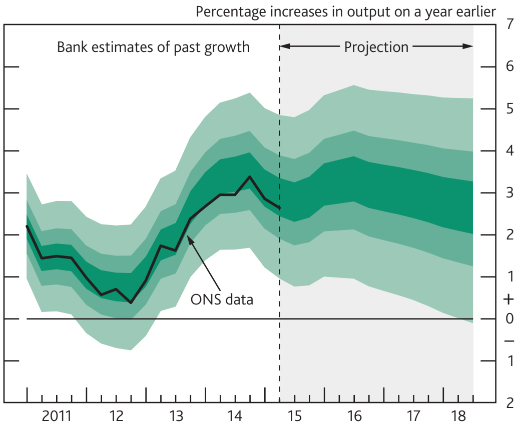
CPI inflation is judged likely to remain close to zero in the near term, before rising around the turn of the year as past falls in energy prices begin to drop out of the annual comparison. In the MPC's best collective judgement, inflation is expected to rise gradually thereafter, reaching the 2% target within two years and then rising a little above it. That gradual rise reflects the build-up of domestic cost pressures and the waning drag from the past appreciation of sterling, but there remains uncertainty around both those paths. The MPC judges that the risks to the projection lie to the downside in the near term (**Chart 5.11**), reflecting the possibility that sterling weighs more on inflation than assumed in the central projection, but are broadly balanced further ahead. Overall,

Chart 5.11 Projected probabilities of CPI inflation in 2016 Q3 (central 90% of the distribution)(a)



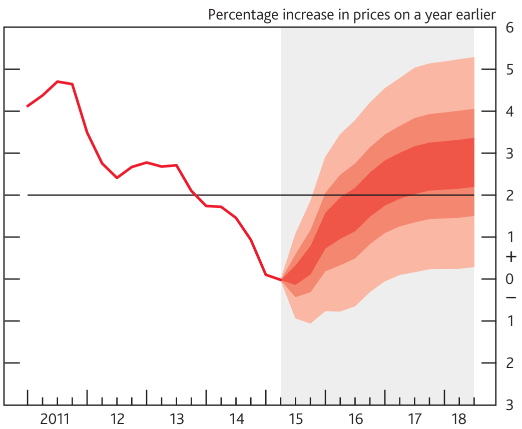
(a) **Chart 5.11** represents the cross-section of the CPI inflation fan chart in 2016 Q3 for the market interest rate projection. It has been conditioned on the assumption that the stock of purchased assets remains at £375 billion throughout the forecast period. The coloured bands in **Chart 5.11** have a similar interpretation to those on the fan charts. Like the fan charts, they portray the central 90% of the probability distribution. The grey outline represents the corresponding cross-section of the May 2015 *Inflation Report* fan chart, which was conditioned on market interest rates and the same assumption about the stock of purchased assets.
(b) Average probability within each band; the figures on the y-axis indicate the probability of inflation being within ±0.05 percentage points of any given inflation rate, specified to one decimal place.

Chart 5.12 GDP projection based on constant nominal interest rates at 0.5% and £375 billion purchased assets



See footnote to **Chart 5.1**.

Chart 5.13 CPI inflation projection based on constant nominal interest rates at 0.5% and £375 billion purchased assets



See footnote to **Chart 5.2**.

the projection is lower than that three months ago in the near term, largely reflecting recent falls in energy prices, but broadly similar further out (**Table 5.F**).

Charts 5.12 and **5.13**, show the MPC's projections under the alternative assumption that Bank Rate remains at 0.5% throughout the forecast period. Under that path growth would be likely to be a little stronger, and inflation is projected to move further above the 2% target.

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 in July.(1) On average, respondents' expectations for CPI inflation, GDP growth, Bank Rate and the stock of purchased assets were broadly similar to those at the time of the May *Report*.

On average, respondents expected four-quarter GDP growth to slow to 2.4% in one year's time, and remain stable over the following two years (**Table 1**). That is below the MPC's central projection for growth, which slows only gradually to around 2½% at the end of the forecast period.

Table 1 Averages of other forecasters' central projections[a]

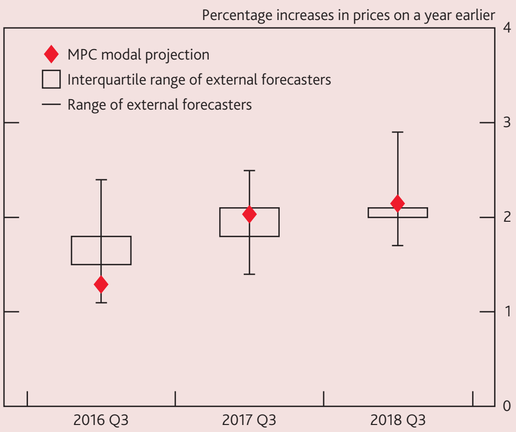
	2016 Q3	2017 Q3	2018 Q3
CPI inflation[b]	1.7	2.0	2.1
GDP growth[c]	2.4	2.4	2.4
LFS unemployment rate	5.0	4.8	4.7
Bank Rate (per cent)	1.0	1.7	2.3
Stock of purchased assets (£ billions)[d]	365	337	301
Sterling ERI	92.1	90.5	88.4

Source: Projections of outside forecasters as of 21 July 2015.

(a) For 2016 Q3, there were 23 forecasts for CPI inflation, GDP growth and Bank Rate, 22 for the unemployment rate, 13 for the stock of asset purchases and 11 for the sterling ERI. For both 2017 Q3 and 2018 Q3, there were 19 forecasts for CPI inflation, GDP growth and Bank Rate, 18 for the unemployment rate, 11 for the stock of asset purchases and 9 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.

The average of respondents' central expectations for CPI inflation in one year's time was around 1.7%, somewhat higher than the MPC's central projection of 1.3%, which was close to the bottom of the range of external forecasts (**Chart A**). On average, external forecasters thought there was around a 30% probability that CPI inflation will be above the target in one year's time, while that probability was 50% in three years' time (**Chart B**).

Chart A Most external forecasters expect higher inflation than the MPC in one year's time
Forecasters' central projections of CPI inflation



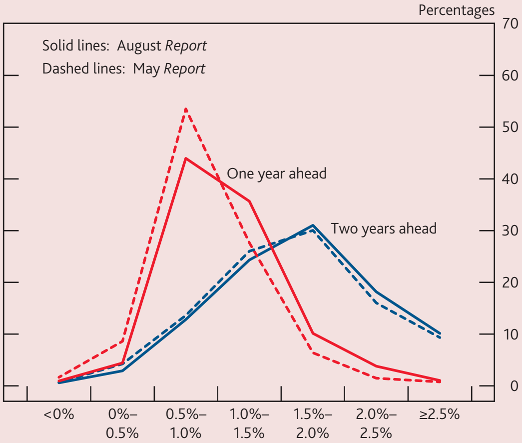
Source: Projections of outside forecasters as of 21 July 2015.

Chart B Even probability of above or below-target inflation three years ahead
Average probability of above-target CPI inflation

Source: Projections of outside forecasters provided for *Inflation Reports* between February 2008 and August 2015.

The path for Bank Rate implied by the average of forecasters' central expectations was little changed from May. Respondents are also asked for the probabilities they would attach to various possible outcomes for Bank Rate. On average, respondents continued to attach the largest weight to Bank Rate being at least 0.5% but less than 1.0% in a year's time (**Chart C**). But there was a greater weight placed on the possibility that Bank Rate would be 1.0% or higher, than at the time of the May *Report*.

Chart C Increased weight on Bank Rate rising to 1% or more over the next year
Average probability of Bank Rate outturns[a]



Source: Projections of outside forecasters provided for *Inflation Reports* in May 2015 and August 2015.

(a) Probabilities on the boundary of these ranges are included in the upper range, eg the probability of Bank Rate being 1.0% appears in the 1.0%–1.5% range.

(1) For detailed distributions of other forecasters' expectations, see 'Other forecasters' expectations' on the Bank's website, available at www.bankofengland.co.uk/publications/Documents/inflationreport/2015/augofe.pdf.

Index of charts and tables

Charts

Tables

Text of Bank of England press notice of 4 June 2015
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 at its meeting on 3 June voted to maintain Bank Rate at 0.5%. The Committee also voted to maintain the stock of purchased assets 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 June.

Text of Bank of England press notice of 9 July 2015
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 at its meeting on 8 July voted to maintain Bank Rate at 0.5%. The Committee also voted to maintain the stock of purchased assets 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 22 July.

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.
DGI – domestically generated inflation.
ERI – exchange rate index.
GDP – gross domestic product.
HICP – harmonised index of consumer prices.
LFS – Labour Force Survey.
PMI – purchasing managers' index.
PPI – producer price index.
RPI – retail prices index.
RPI inflation – inflation measured by the retail prices index.

Abbreviations

BCC – British Chambers of Commerce.
CBI – Confederation of British Industry.
CEIC – CEIC Data Company Ltd.
CIPS – Chartered Institute of Purchasing and Supply.
COICOP – Classification of Individual Consumption by Purpose.
ECB – European Central Bank.
FOMC – Federal Open Market Committee.
FTSE – Financial Times Stock Exchange.
GfK – Gesellschaft für Konsumforschung, Great Britain Ltd.
IMF – International Monetary Fund.
LTV – loan to value.
MPC – Monetary Policy Committee.
MTIC – missing trader intra-community.
NLW – National Living Wage.
OBR – Office for Budget Responsibility.
OECD – Organisation for Economic Co-operation and Development.
ONS – Office for National Statistics.
PNFCs – private non-financial corporations.
PPP – purchasing power parity.
PwC – PricewaterhouseCoopers.
REC – Recruitment and Employment Confederation.
S&P – Standard & Poor's.
SMEs – small and medium-sized enterprises.
VAT – Value Added Tax.
WEO – IMF *World Economic Outlook*.

Symbols and conventions

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

n.a. = not available.

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

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

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