

# Inflation Report

August 2017



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.

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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/2017/aug.aspx](http://www.bankofengland.co.uk/publications/Pages/inflationreport/2017/aug.aspx).



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# Monetary Policy Summary

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The Bank of England's Monetary Policy Committee (MPC) sets monetary policy to meet the 2% inflation target, and in a way that helps to sustain growth and employment. At its meeting ending on 2 August 2017, the MPC voted by a majority of 6–2 to maintain Bank Rate at 0.25%. The Committee voted unanimously to maintain the stock of sterling non-financial investment-grade corporate bond purchases, financed by the issuance of central bank reserves, at £10 billion. The Committee voted unanimously to maintain the stock of UK government bond purchases, financed by the issuance of central bank reserves, at £435 billion. The Committee voted unanimously to close the drawdown period for the Term Funding Scheme (TFS) on 28 February 2018, as envisaged when the scheme was introduced.

The MPC's overall assessment of the outlook for inflation and activity in the *August Inflation Report* is broadly similar to that in May. In the MPC's central forecast, GDP growth remains sluggish in the near term as the squeeze on households' real incomes continues to weigh on consumption. Growth then picks up to just above its reduced potential rate over the balance of the forecast period. Net trade and business investment firm up, and consumption growth recovers in line with modestly rising household incomes. Net trade is bolstered by strong global growth and the past depreciation of sterling. The combination of high rates of profitability, especially in the export sector, the low cost of capital and limited spare capacity supports investment by UK firms over the forecast period, offsetting the effect of continued uncertainties around Brexit.

CPI inflation rose to 2.6% in June from 2.3% in March, as expected. The MPC expects inflation to rise further in coming months and to peak around 3% in October, as the past depreciation of sterling continues to pass through to consumer prices. Conditional on the current market yield curve, inflation is projected to remain above the MPC's target throughout the forecast period. This overshoot reflects entirely the effects of the referendum-related falls in sterling. As the effect of rising import prices on inflation diminishes, domestic inflationary pressures gradually pick up over the forecast period. As slack is absorbed, wage growth is projected to recover. In addition, margins in the consumer sector, having been squeezed by the pickup in import prices, are projected to be rebuilt. Consequently, inflation remains at a level slightly above the 2% target.

As in previous *Reports*, the MPC's projections are conditioned on the average of a range of possible outcomes for the United Kingdom's eventual trading relationship with the European Union. The projections also assume that, in the interim, households and companies base their decisions on the expectation of a smooth adjustment to that new trading relationship. Other important judgements include: that the lower level of sterling continues to boost consumer prices broadly as projected, and without adverse consequences for inflation expectations further ahead; that regular pay growth remains modest in the near term but picks up over the forecast period; and that subdued household spending growth is largely balanced by a pickup in other components of demand.

Monetary policy cannot prevent either the necessary real adjustment as the United Kingdom moves towards its new international trading arrangements or the weaker real income growth that is likely to accompany that adjustment over the next few years. Attempting to offset fully the effect of weaker sterling on inflation would be achievable only at the cost of higher unemployment and, in all likelihood, even weaker income growth. For this reason, the MPC's remit specifies that, in exceptional circumstances, the Committee must balance any trade-off between the speed at which it intends to return inflation sustainably to the target and the support that monetary policy provides to jobs and activity.

Through most of the forecast period, the economy operates with a small degree of spare capacity and CPI inflation is well above the target. By the end of the forecast, that trade-off is eliminated. Spare capacity is fully absorbed, and inflation remains above the target.

The Committee judges that, given the assumptions underlying its projections including the closure of the drawdown period of the TFS, and allowing for the effects of the recent prudential decisions of the Financial Policy Committee and the Prudential Regulation Authority, some tightening of monetary policy would be required to achieve a sustainable return of inflation to the target. Specifically, if the economy follows a path broadly consistent with the August central projection, then monetary policy could need to be tightened by a somewhat greater extent over the forecast period than the path implied by the yield curve underlying the August projections.

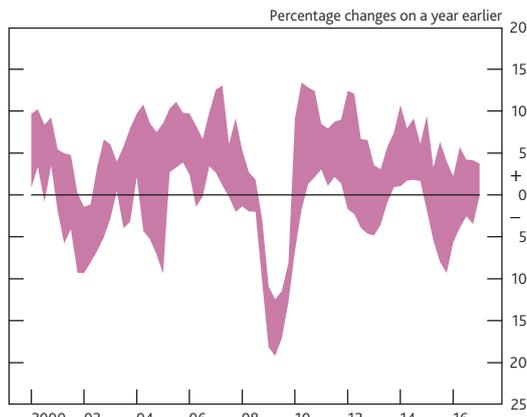
In light of these considerations, six members thought that the current policy stance remained appropriate to balance the demands of the MPC's remit. Two members considered it appropriate to increase Bank Rate by 25 basis points. All members agreed that any increases in Bank Rate would be expected to be at a gradual pace and to a limited extent. The Committee will continue to monitor closely the incoming evidence, and stands ready to respond to changes in the economic outlook as they unfold to ensure a sustainable return of inflation to the 2% target.

# 1 Global economic and financial market developments

The outlook for the global economy has improved in recent quarters, as growth has picked up and its composition has rotated towards investment. The improving outlook, alongside greater investor risk appetite, has supported rises in equity and corporate bond prices over the past year. Financial market prices imply that UK and euro-area policy rates are expected to rise more quickly than they had been in May, although the pace remains gradual. Sterling's exchange rate has fallen slightly since May and remains significantly below its level prior to the EU referendum.

**Chart 1.1 Business investment growth has risen across advanced economies**

Business investment in selected countries and regions<sup>(a)</sup>



Sources: OECD, Thomson Reuters Datastream and Bank calculations.

(a) Chained-volume measures. Includes Canada, euro area, Japan, United Kingdom and United States. UK data are adjusted for the transfer of nuclear reactors from the public corporation sector to central government in 2005 Q2.

**Table 1.A Global GDP growth picked up in Q2**  
GDP in selected countries and regions<sup>(a)</sup>

Percentage changes on a quarter earlier, annualised

	Averages			2016		2017	
	1998–2007	2012–13	2014–15	H1	H2	Q1	Q2
United Kingdom	2.9	1.9	2.6	1.5	2.3	0.9	1.2
Euro area (38%)	2.3	-0.1	1.6	1.8	2.0	2.0	2.3
United States (19%)	3.0	2.0	2.4	1.4	2.3	1.2	2.6
China (3%) <sup>(b)</sup>	10.0	7.8	7.1	6.7	6.8	6.9	6.9
Japan (2%)	1.1	1.6	0.4	2.0	1.2	1.0	n.a.
India (1%) <sup>(b)</sup>	n.a.	6.1	7.2	8.6	7.3	6.1	n.a.
Russia (1%) <sup>(c)</sup>	7.6	1.7	-1.9	-0.5	n.a.	n.a.	n.a.
Brazil (1%)	3.1	2.6	-2.9	-2.6	-2.2	4.3	n.a.
UK-weighted world GDP <sup>(d)</sup>	3.0	1.7	2.2	2.0	2.5	2.5	2.6

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

(a) Real GDP measures. Figures in parentheses are shares in UK goods and services exports in 2015.

(b) Data are four-quarter growth. The earliest observation for India is 2012 Q2.

(c) The earliest observation for Russia is 2003 Q2.

(d) Constructed using data for real GDP growth rates for 180 countries weighted according to their shares in UK exports. For the vast majority of countries, the latest observation is 2017 Q1. For those countries where data are not yet available, Bank staff projections are used.

Global GDP growth is estimated to have risen further in 2017 Q2 and is projected to be stable in coming quarters (Section 1.1). Part of the pickup in growth since 2016 H1 has been accounted for by a recovery in investment growth (Chart 1.1), which should support the outlook for activity further ahead. While the near-term outlook is broadly unchanged since May, it remains stronger than projected in earlier *Reports*. Despite further falls in unemployment across a number of countries, wage growth and global inflation remain relatively subdued (Section 1.2).

Improvements in the outlook for global growth have been reflected in rising equity prices and narrower corporate bond spreads. Benchmark market interest rates have increased (Section 1.3). Despite the firmer global backdrop, investors appear to have marked down UK growth prospects since the EU referendum. The sterling ERI has remained 15%–20% below its late-2015 peak. In addition, the risk premium on UK equities does not appear to have fallen in line with international equivalents. The market-implied path for Bank Rate rises only very gradually over the next three years, albeit by slightly more than in the run-up to the May *Report*.

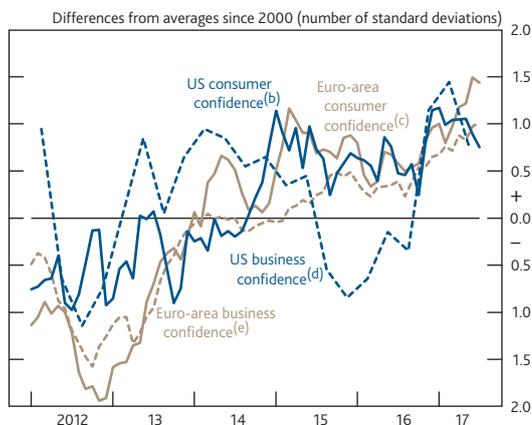
## 1.1 Developments in global activity

Quarterly global GDP growth, weighted by countries' shares in UK exports, is estimated to have picked up from 0.6% in 2017 Q1 to 0.7% in Q2. Euro-area growth has continued to strengthen, while US growth recovered in Q2 from an erratically weak Q1 (Table 1.A). Growth in emerging market economies (EMEs) is expected to have been stable in 2017 H1, having slowed in recent years.

A range of indicators suggest continued momentum in global growth in the near term. Global survey indicators of output and new orders remain robust. Business and consumer confidence are also buoyant, particularly in the euro area and United States (Chart 1.2). Another indicator of the recovery

### Chart 1.2 Measures of euro-area and US confidence remain buoyant

Euro-area and US consumer and business confidence<sup>(a)</sup>

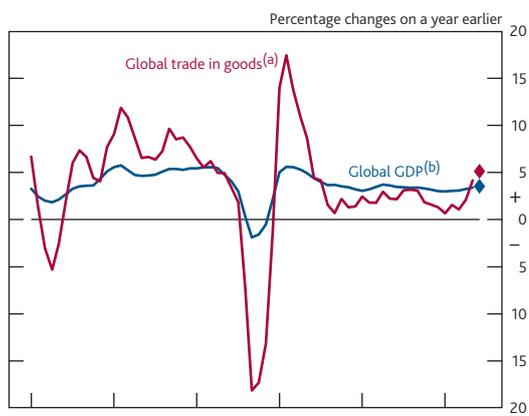


Sources: European Commission (EC), The Conference Board, Thomson Reuters Datastream, University of Michigan and Bank calculations.

- (a) Monthly data unless otherwise stated.  
 (b) University of Michigan consumer sentiment index. Data are non seasonally adjusted.  
 (c) Overall EC consumer confidence indicator.  
 (d) The Conference Board — Measure of CEO Confidence™, © 2017 The Conference Board. Content reproduced with permission. All rights reserved. Data are quarterly and non seasonally adjusted.  
 (e) Headline EC sentiment index, reweighted to exclude consumer confidence. Average of overall confidence in the industrial (50%), services (38%), retail trade (6%) and construction (6%) sectors.

### Chart 1.3 Global trade growth has risen

Global GDP and trade in goods



Sources: CPB Netherlands Bureau for Economic Policy Analysis, IMF WEO, OECD, Thomson Reuters Datastream and Bank calculations.

- (a) Volume measure. The diamond shows data for the three months to May 2017.  
 (b) Chained-volume measure. Constructed using real GDP growth rates of 181 countries weighted according to their shares in world GDP using the IMF's purchasing power parity (PPP) weights. For the vast majority of countries, the latest observation is 2017 Q1. For those countries where data are not yet available, Bank staff projections are used. The diamond shows Bank staff's projection for 2017 Q2.

in activity has been a sharp pickup in world trade growth (Chart 1.3). While that largely reflects stronger trade growth across EMEs, trade growth also appears to be recovering across advanced economies.

As the recovery has progressed, the composition of advanced-economy GDP growth appears to have rotated towards investment (Chart 1.4). Consumption growth was the main driver of the recovery in recent years, but investment growth has gathered pace since late 2016. Historically, investment growth has been relatively synchronised across advanced economies (Chart 1.1). A rise in US and euro-area capital goods orders in the first half of this year suggests that the pickup in investment growth is likely to be sustained in the near term. The level of advanced-economy investment remains low, however. That means growth in the capital stock remains subdued, which will continue to drag on global productivity growth.

#### The euro area

Quarterly euro-area GDP growth has strengthened over the past twelve months, and at 0.6% in 2017 Q2 was around its pre-crisis average rate (Table 1.A). The pickup in growth has been broad-based across countries and accounted for by stronger private domestic demand, particularly business investment. Alongside accommodative monetary policy and easing credit conditions, GDP growth appears to have been supported by improving business and consumer confidence (Chart 1.2).

Euro-area growth is projected to remain a little above ½% per quarter in the near term. That is consistent with continued robust survey indicators of near-term activity and confidence. The pace of growth should also support a continued increase in employment. The euro-area unemployment rate has fallen to 9.1% and is projected to continue to fall slightly in the near term.

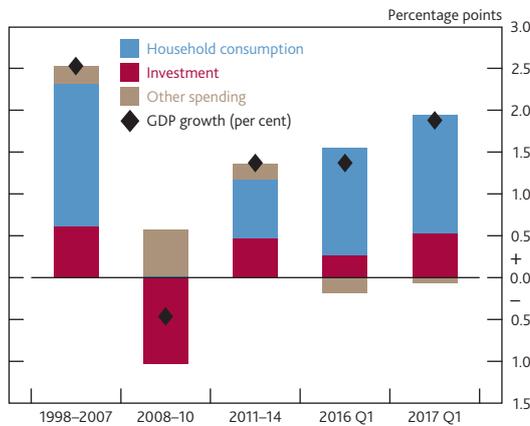
#### The United States

US GDP growth has been broadly stable in recent years, with growth continuing to average around ½% per quarter in 2017 H1 (Table 1.A). There was, however, some volatility in growth, as temporary factors depressed consumption growth in Q1. Looking through that, consumption has been a little weaker than expected in May, perhaps in part reflecting continued subdued wage growth (Section 1.2). In contrast, investment growth has been strong and broadly in line with expectations.

Quarterly US GDP growth is expected to remain around ½% in the second half of this year. With the US unemployment rate close to its pre-crisis trough, it appears that slack in the US labour market has largely been absorbed. The sustainability of US growth is therefore likely to depend in large part on productivity trends. Productivity growth has

**Chart 1.4 The composition of advanced-economy growth has rotated towards investment**

Contributions to four-quarter GDP growth for selected advanced economies<sup>(a)</sup>



Sources: IMF WEO, OECD, Thomson Reuters Datastream and Bank calculations.

(a) Constructed using real GDP data for Canada, euro area, Japan, United Kingdom and United States. Weighted using the IMF's PPP weights.

begun to pick up, but only gradually, and it remains significantly below pre-crisis rates. Business investment growth in the United States has tended to outperform that in other advanced economies over recent years, and should support US productivity growth over time.

### Emerging market economies

Four-quarter growth in China has been broadly stable over the past two years and was 6.9% in 2017 Q2 (Table 1.A). Industrial production growth has been strong, in part reflecting the strength of global demand. Domestic demand growth has also been resilient, although that has been supported by rapid credit growth, raising concerns about financial stability over the medium term. There remain significant challenges for the authorities in maintaining current rates of GDP growth while managing and reducing those risks to financial stability.<sup>(1)</sup>

Having slowed significantly in preceding years, growth in other EMEs has continued to recover over the past year. Russia and Brazil, which have accounted for much of the slowing in recent years, appear to have emerged from recession, although the outlook for Brazil remains vulnerable to political risks. Recoveries in world trade and advanced-economy demand growth should also help to support EME growth. Nevertheless, growth is expected to remain below pre-crisis rates.

Growth in many EMEs has been supported by an easing in financial conditions and, for commodity exporters, the rise in commodity prices since early 2016 (Section 1.2). Net inflows of private sector capital into EMEs have picked up slightly in the first half of this year and EME equity prices have risen further. Several major EMEs appear to have increased their resilience to macroeconomic shocks, with current account deficits narrowing, foreign exchange reserves rising, and government finances becoming somewhat less reliant on commodity production.

**Chart 1.5 Oil prices have fallen in recent months**

US dollar oil and commodity prices



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

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

## 1.2 Commodity markets and developments in inflation

The improving outlook for global economic activity appears to have pushed up some commodity prices. In particular, industrial metals prices have risen slightly since May and are significantly higher than a year ago (Chart 1.5).

By contrast, oil prices have fallen in recent months as developments in oil supply appear to have outweighed stronger demand prospects. US dollar oil prices have fallen by 8% since the run-up to the May Report (Chart 1.5). Market

(1) For more detail on the financial vulnerabilities in China, see the June 2017 *Financial Stability Report*; [www.bankofengland.co.uk/publications/Documents/fsr/2017/fsrjun17.pdf](http://www.bankofengland.co.uk/publications/Documents/fsr/2017/fsrjun17.pdf).

**Table 1.B Core inflation remains subdued in the euro area and United States**

Inflation in selected countries and regions

Per cent	Monthly averages					2017			
	1998–2007	2015	2016 H1	2016 H2	2017 Q1	Apr.	May	June	July
<b>Annual headline consumer price inflation</b>									
United Kingdom	1.6	0.0	0.4	1.0	2.1	2.7	2.9	2.6	n.a.
Euro area <sup>(a)</sup>	2.0	0.0	0.0	0.5	1.8	1.9	1.4	1.3	1.3
United States <sup>(b)</sup>	2.0	0.3	1.0	1.4	2.0	1.7	1.5	1.4	n.a.
UK-weighted world inflation <sup>(c)</sup>	2.0	0.5	0.7	0.9	1.7	n.a.	n.a.	1.6	n.a.
<b>Annual core consumer price inflation (excluding food and energy)<sup>(d)</sup></b>									
United Kingdom	1.2	1.1	1.3	1.4	1.8	2.4	2.6	2.4	n.a.
Euro area <sup>(a)</sup>	1.6	0.8	0.9	0.8	0.8	1.2	0.9	1.1	1.2
United States <sup>(b)</sup>	1.8	1.3	1.7	1.9	1.8	1.6	1.5	1.5	n.a.
<b>Annual UK-weighted world export price inflation excluding oil<sup>(c)</sup></b>									
	1.1	-0.9	-2.8	-0.7	3.7	n.a.	n.a.	3.6	n.a.

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

(a) Data points for July 2017 are flash estimates.

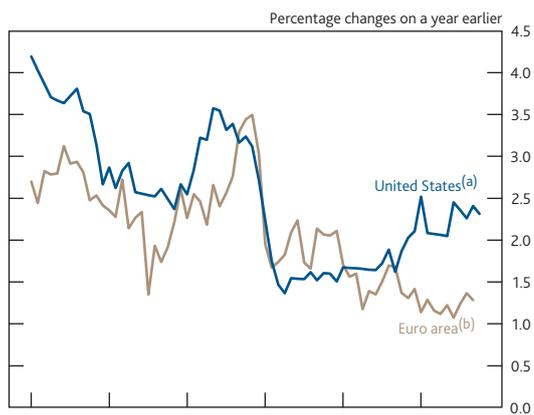
(b) Personal consumption expenditure price index inflation. Data points for June 2017 are preliminary estimates.

(c) UK-weighted world consumer price inflation is constructed using data for consumption deflators for 51 countries, weighted according to their shares in UK exports. UK-weighted world export price inflation excluding oil is constructed using data for non-oil export deflators for 51 countries, excluding major oil exporters, weighted according to their shares in UK exports. For the vast majority of countries, the latest observations are 2017 Q1. Where data are not yet available, Bank staff projections are used. Figures for June are Bank staff projections for 2017 Q2.

(d) For the euro area and the United Kingdom, excludes energy, food, alcoholic beverages and tobacco. For the United States, excludes food and energy.

**Chart 1.6 US and euro-area wage growth remain subdued**

Euro-area and US wages



Sources: Eurostat, Thomson Reuters Datastream, US Bureau of Economic Analysis and Bank calculations.

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

(b) Compensation per employee. Data are to 2017 Q1.

contacts point to unexpected resilience in US shale oil production as a key driver of those falls in prices. Although OPEC agreed in May to extend supply cuts until March 2018, the International Energy Agency expects non-OPEC production, including that in the United States, to grow broadly in line with global demand next year.

Past rises in commodity prices have pushed up measures of headline consumer price inflation in the euro area, United States and more widely (Table 1.B). That largely reflects a rise in global oil prices in the first half of 2016, following falls in 2014–15 (Chart 1.5). As those rises have started to drop out of the annual comparison, however, the boost to headline inflation has begun to diminish.

Core inflation, which excludes food and energy prices, remains subdued in the euro area and United States (Table 1.B). The extent of that weakness has to some degree been masked recently by erratic factors. Euro-area inflation had been boosted temporarily by the timing of Easter holidays relative to 2016, but that effect has now unwound. US core inflation had been pushed up by a sharp rise in prescription drug prices. That has now fallen out of the annual inflation rate, although a decline in the cost of mobile phone services is depressing core inflation at present.

One indicator of core inflation in the medium term is developments in companies' wage cost pressures. US wage growth picked up during 2014, but has remained broadly stable since then at a somewhat subdued rate (Chart 1.6). Euro-area wage growth has remained weak in recent years, perhaps reflecting a persistent degree of labour market slack. With unemployment set to decline further in the euro area, however, and seemingly little slack in the United States at present, wage growth and broader inflationary pressures are projected to increase. That said, there is some uncertainty around how quickly and the extent to which wage growth will pick up.

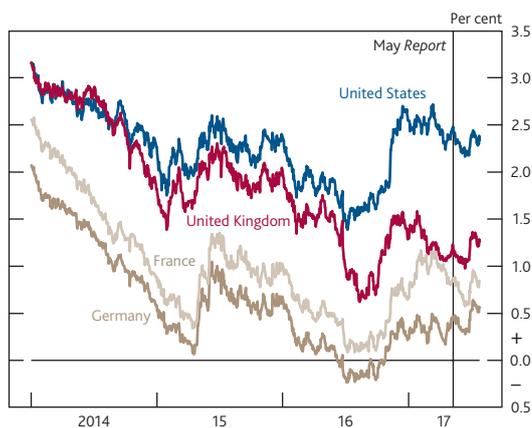
Inflation trends globally have some bearing on those in the United Kingdom. Annual world export price inflation excluding oil picked up sharply in 2017 Q1, and is expected to have remained elevated in Q2 at 3.6% (Table 1.B). That is pushing up UK import price inflation (Section 4), as is the past fall in sterling. But as past rises in commodity prices begin to drop out of the annual comparison, and the more recent falls in oil prices are passed through into lower input costs for other goods, world export price inflation is expected to slow around the turn of the year.

### 1.3 Developments in financial markets

The improvement in global economic prospects and investors' perceptions of risks around the outlook have been key drivers of financial asset prices.

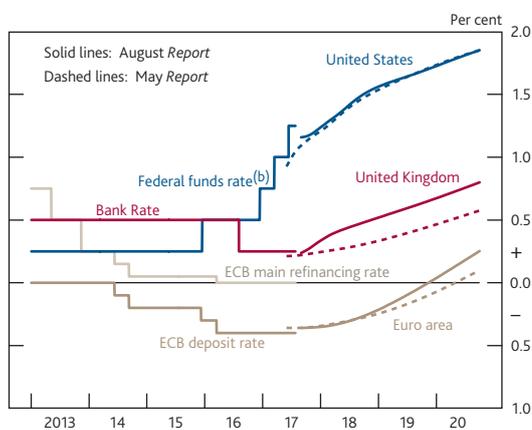
**Table 1.C Monitoring the MPC's key judgements**

Developments anticipated in May during 2017 Q2–Q4	Developments now anticipated during 2017 Q3–2018 Q1
<b>Advanced economies</b>	<b>Broadly unchanged</b>
<ul style="list-style-type: none"> <li>Quarterly euro-area growth to average a little above ½%. Annual euro-area HICP inflation to fall back and then remain around 1½% during the rest of the year.</li> <li>Quarterly US GDP growth to average between ½% and ¾%. Annual US PCE inflation to remain around 2%.</li> </ul>	<ul style="list-style-type: none"> <li>Quarterly euro-area growth to average a little above ½%. Annual euro-area HICP inflation to fall back to around 1%.</li> <li>Quarterly US GDP growth to average ½%. Annual US PCE inflation to remain below 2%.</li> </ul>
<b>Rest of the world</b>	<b>Broadly unchanged</b>
<ul style="list-style-type: none"> <li>Average four-quarter PPP-weighted EME growth of around 4½%; GDP growth in China to average around 6½%.</li> </ul>	<ul style="list-style-type: none"> <li>Average four-quarter PPP-weighted EME growth of around 4¾%; GDP growth in China to average around 6¾%.</li> </ul>
<b>The exchange rate</b>	<b>Lower than expected</b>
<ul style="list-style-type: none"> <li>Sterling ERI to evolve in line with the conditioning assumptions.</li> </ul>	<ul style="list-style-type: none"> <li>The sterling ERI is 2% lower. Sterling ERI to evolve in line with the conditioning assumptions.</li> </ul>

**Chart 1.7 Long-term interest rates have increased over the past year**Ten-year nominal government bond yields<sup>(a)</sup>

Sources: Bloomberg and Bank calculations.

(a) Zero-coupon spot rates derived from government bond prices.

**Chart 1.8 Market-implied paths for short-term rates have risen in the United Kingdom and euro area**International forward interest rates<sup>(a)</sup>

Sources: Bank of England, Bloomberg, European Central Bank (ECB) and Federal Reserve.

(a) The August 2017 and May 2017 curves are estimated using instantaneous forward overnight index swap rates in the fifteen working days to 26 July and 3 May respectively.

(b) Upper bound of the target range.

## Interest rates

The improving growth outlook has been reflected in higher market interest rates across advanced economies over the past year. And UK and euro-area long-term interest rates (**Chart 1.7**) and market-implied paths for policy rates (**Chart 1.8**) have risen further since May. In contrast, US market interest rates were broadly unchanged over the past three months, although they remain higher than a year ago.

In the United States, the Federal Open Market Committee (FOMC) in June again raised the target range for the federal funds rate, to between 1% and 1¼%. The median FOMC member's projection is for the federal funds rate to rise to a little below 3% by the end of 2019. The FOMC also announced that, subject to economic conditions, it expects to begin to unwind its asset purchase programme. Market interest rates imply that the pace of rate rises will slow over the next few years (**Chart 1.8**), to a level below the median FOMC member's policy rate projection.

The European Central Bank (ECB) has made no changes to policy rates or its asset purchase programme since May. In July, the ECB reiterated that it would continue its programme of asset purchases until December 2017 and market contacts expect them to continue beyond that point but with a reduction in the pace of purchase. The market-implied path for policy rates steepened somewhat towards the end of June, but still rises only gradually over the next three years (**Chart 1.8**).

In the United Kingdom, the market-implied path for Bank Rate reaches 0.8% in three years' time, around 20 basis points higher than at the time of the *May Report* (**Chart 1.8**). Within that, a full 25 basis point rise in Bank Rate is now implied by late 2018.

The MPC voted 5–3 to make no changes to monetary policy at its June meeting, as set out in the box on page 6. Market contacts attributed subsequent rises in interest rate expectations to changes in the balance of policy votes and later communications by MPC members. The details of the August decision are contained in the Monetary Policy Summary on pages i–ii of this *Report*, and in more detail in the Minutes of the meeting.

Market-implied paths continue to suggest that policy rates in advanced economies will rise only gradually in coming years (**Chart 1.8**), and long-term government bond yields remain historically low (**Chart 1.7**). These low levels of long-term interest rates are likely in part to reflect continued subdued expectations for long-term growth, and the risk of even weaker growth, despite the recent improvement in nearer-term prospects. But low levels of long-term interest rates are also likely to reflect structural shifts in global

## Monetary policy since the May Report

The MPC's central projection in the *May Report* was for four-quarter GDP growth to slow over 2017, settling at around 1¾% over the rest of the forecast period. Subdued consumption growth was projected to be largely balanced by rising net trade and investment. Inflation was projected to remain above the 2% target, reflecting higher import prices stemming from the past depreciation of sterling. Conditional on the path for Bank Rate implied by market interest rates prevailing at the time, wage growth and domestic price pressures were projected to pick up over the forecast, such that inflation was projected to be rising in the third year even as external price pressures faded. That central projection was also conditioned on the announced Term Funding Scheme, and on the stocks of purchased gilts and corporate bonds remaining at £435 billion and £10 billion respectively.

At its meeting ending on 14 June, the MPC noted that GDP growth had declined markedly in 2017 Q1, in part reflecting weaker household spending. It remained to be seen how large and persistent this slowdown in consumption would prove, with mixed signals from various indicators. For instance, there had been further signs of a slowing in the housing market but consumer confidence had remained

relatively resilient. Surveys of exports and investment, however, were fairly upbeat. That in part reflected robust near-term momentum in global activity.

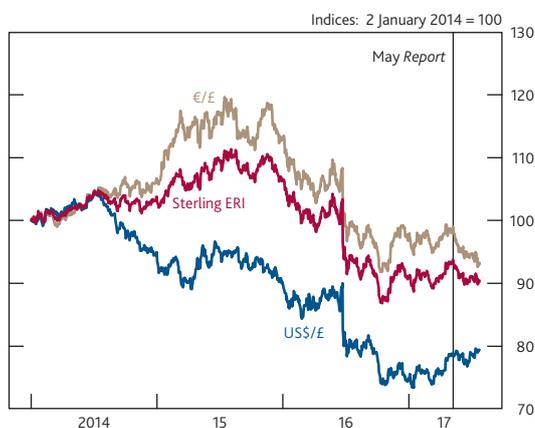
CPI inflation had reached 2.9% in May, and core inflation had also risen. Both stood at rates above the MPC's expectations at the time of the *May Report*. In contrast, wage growth had moderated further in April from already subdued rates, even as the unemployment rate had fallen to 4.6%.

The MPC's May projections showed that the economy was expected to operate with a small degree of spare capacity for most of the forecast period, justifying the tolerance of some degree of above-target inflation. The continued growth of employment could suggest that spare capacity was being eroded, lessening the trade-off the MPC was required to balance. Key considerations would be the evolution of inflationary pressures, the persistence of weaker consumption and the degree to which it was offset by other components of demand. In light of those considerations, five members thought the current policy stance remained appropriate to balance that trade-off. Three members considered it appropriate to increase Bank Rate by 25 basis points. All members agreed that any increases in Bank Rate were expected to be at a gradual pace and to a limited extent.

investment and saving preferences, due to factors such as the increasing average age of the global population.<sup>(1)</sup>

**Chart 1.9 Sterling has remained 15%–20% below its late-2015 peak**

Sterling exchange rates



## Exchange rates

Changes in relative growth prospects and interest rates tend to be associated with movements in exchange rates. Amid improving euro-area growth prospects, the euro has appreciated against a range of currencies in recent months, including sterling (**Chart 1.9**).

Sterling has remained around 15%–20% below its November 2015 peak since the EU referendum (**Chart 1.9**). In the run-up to the *August Report*, the sterling ERI was 2% lower than at the time of the *May Report*, and 18% below its peak. Market contacts ascribe much of the fall to changes in investors' perceptions of the UK growth outlook and risks around the United Kingdom's departure from the European Union.

## Corporate capital markets

Developments in capital markets matter for the ease and cost of raising finance for companies. The improvement in the global growth outlook over the past year (Section 1.1),

(1) For more details, see the box on pages 8–9 of the November 2016 *Report*; [www.bankofengland.co.uk/publications/Pages/inflationreport/2016/nov.aspx](http://www.bankofengland.co.uk/publications/Pages/inflationreport/2016/nov.aspx) and Vlieghe, G (2016), 'Monetary policy expectations and long-term interest rates'; [www.bankofengland.co.uk/publications/Documents/speeches/2016/speech909.pdf](http://www.bankofengland.co.uk/publications/Documents/speeches/2016/speech909.pdf).

**Chart 1.10 International equity prices have risen over the past year**

International equity prices<sup>(a)</sup>

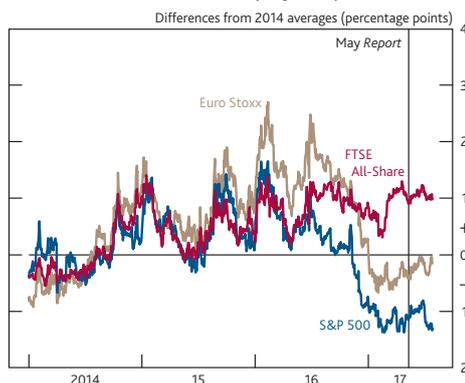


Sources: MSCI, Thomson Reuters Datastream and Bank calculations.

(a) In local currency terms, except for MSCI Emerging Markets, which is in US dollar terms. The MSCI Inc. disclaimer of liability, which applies to the data provided, is available at [www.bankofengland.co.uk/publications/Pages/inflationreport/2017/aug.aspx](http://www.bankofengland.co.uk/publications/Pages/inflationreport/2017/aug.aspx).

**Chart 1.11 Equity risk premia have fallen significantly over the past year in the euro area and United States but not the United Kingdom**

Estimates of international equity risk premia<sup>(a)</sup>

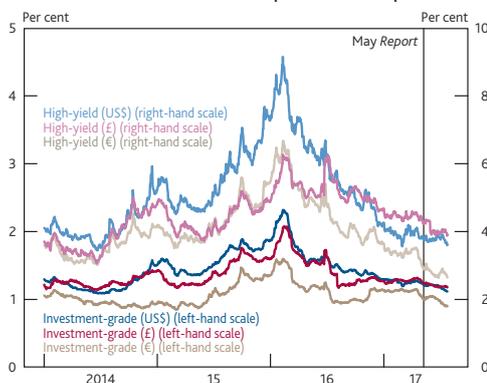


Sources: Bloomberg, IMF WEO, Thomson Reuters Datastream and Bank calculations.

(a) Based on an estimated dividend discount model. See Dison, W and Rattan, A (2017), 'An improved model for understanding equity prices', *Bank of England Quarterly Bulletin*, 2017 Q2, pages 86–97; [www.bankofengland.co.uk/publications/Pages/quarterlybulletin/2017/q2/a1.aspx](http://www.bankofengland.co.uk/publications/Pages/quarterlybulletin/2017/q2/a1.aspx).

**Chart 1.12 Sterling high-yield corporate bond spreads have narrowed by less than US dollar and euro spreads over the past year**

International non-financial corporate bond spreads<sup>(a)</sup>



Sources: Bank of America Merrill Lynch Global Research, Thomson Reuters Datastream and Bank calculations.

(a) Option-adjusted spreads on government bond yields. Investment-grade corporate bond yields are calculated using an index of bonds with a rating of BBB3 or above. High-yield corporate bond yields are calculated using aggregate indices of bonds rated lower than BBB3. Due to monthly index rebalancing, movements in yields at the end of each month might reflect changes in the population of securities within the indices.

combined with greater investor risk appetite, appears to have supported a significant rise in international equity prices (**Chart 1.10**). Model-based estimates of equity risk premia, which aim to capture the additional return that investors demand over and above the returns on government bonds, have fallen significantly since mid-2016 for US and euro-area equities (**Chart 1.11**). In addition, measures of implied asset price volatility — one set of indicators of financial market uncertainty and risk aversion — have also fallen, although as explained in the box on page 8 these indicators can be influenced by other factors.

The cost of debt financing through capital markets also remains low. Companies issuing debt typically pay a spread relative to government bond yields, to compensate investors for additional risk. While government bond yields have risen over the past year (**Chart 1.7**), spreads on corporate bonds have narrowed (**Chart 1.12**). Moreover, the spreads on corporate bonds for riskier 'high-yield' companies have narrowed by more than for other companies. Those developments probably reflect a reduction in downside risks to the global outlook following the recent period of steady growth (Section 1.1), and increased investor appetite for risk.

Compared with those in the euro area and United States, risky assets in the United Kingdom have underperformed. An estimate of the risk premium on equities within the FTSE All-Share index is broadly unchanged from a year ago, in contrast to the falls in risk premia for other major global equity indices (**Chart 1.11**). Much of the rise in the FTSE All-Share index (**Chart 1.10**) appears instead to have reflected a sharper rise in earnings expectations. In turn, that probably stems from the boost to the sterling value of foreign currency profits due to the depreciation, rather than a relatively greater improvement in their underlying earnings.

Within the FTSE All-Share, the equity prices of UK-focused companies have not risen to the same extent as for other companies (**Chart 1.13**). And the spreads on high-yield sterling bonds, which are more likely to be issued by domestically focused firms, have narrowed but by less than their dollar and euro equivalents since early 2016 (**Chart 1.12**).

### Bank funding costs

Capital markets also matter for broader credit conditions through their influence on bank funding costs. While market interest rates have risen in recent quarters, the spreads that banks pay for funding over and above benchmark interest rates have continued to narrow (**Chart 1.14**), largely reflecting the broader improvement in investor risk sentiment.

At its June meeting, the Financial Policy Committee (FPC) decided to increase the countercyclical capital buffer rate, levied on banks' total risk-weighted UK assets, from 0% to 0.5% and said that it expected — absent a material change in

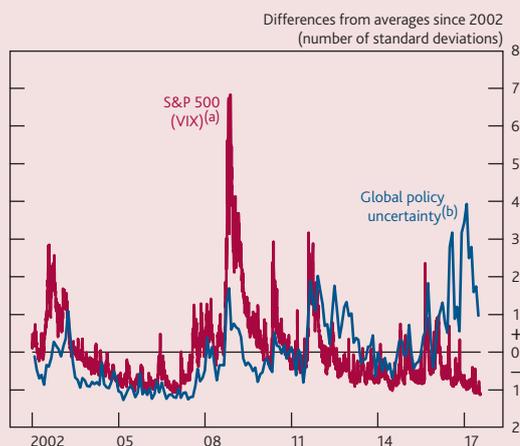
## Why are measures of financial market uncertainty close to historical lows?

The cost of finance for companies will depend, in part, on investors' willingness to take on risk and their perceptions of the degree of risk.

One set of financial market-based measures of investor uncertainty and risk aversion are implied volatilities. These measures have fallen over the past year. For example, the VIX measure of implied equity volatility, derived from S&P 500 stock index option prices, is close to its historical lows (**Chart A**). And this trend has broadly been replicated in implied volatilities for a wider range of financial assets, including bonds and currencies.

### Chart A Financial market uncertainty appears to have fallen

Policy uncertainty and implied volatility of equity prices



Sources: Bloomberg, policyuncertainty.com and Bank calculations.

(a) VIX measure of 30-day implied volatility of the S&P 500 equity index.

(b) Global policy uncertainty is a PPP-weighted measure of media citations of terms related to policy uncertainty, based on Baker, S R, Bloom, N and Davis, S J (2016), 'Measuring economic policy uncertainty', *NBER Working Paper No. 21633*.

The current low level of implied volatilities may, however, be understating the degree of uncertainty influencing investors' decisions. Other measures of uncertainty, such as the Baker, Bloom and Davis index of global economic policy uncertainty based on media citations, are above average at present (**Chart A**). That index has tended to be closely correlated with financial market measures of uncertainty in the past.<sup>(1)</sup>

One reason why implied volatilities may be understating uncertainty is if they are affected by particular market-based factors. One factor that may have lowered implied volatilities in recent years is investors using option-based strategies to generate higher returns in the low interest rate environment. In particular, there are reports of some investors becoming more willing to sell insurance against rises or falls in asset prices to generate additional revenue. This may have reduced

the price of that insurance and therefore the level of implied volatility calculated from them. Underlying perceptions of risk could therefore be higher than indicated by measures of implied volatility, although a greater willingness to sell insurance relative to demand could also suggest an increase in risk appetite among investors.

In addition, the options underlying these estimates of implied volatilities tend to be traded over shorter horizons than those over which investment decisions are made. The VIX measure, for example, only reflects uncertainty over the next 30 days. So these measures may be less affected by longer-term risks, even though those risks may be affecting other asset prices and investment decisions.

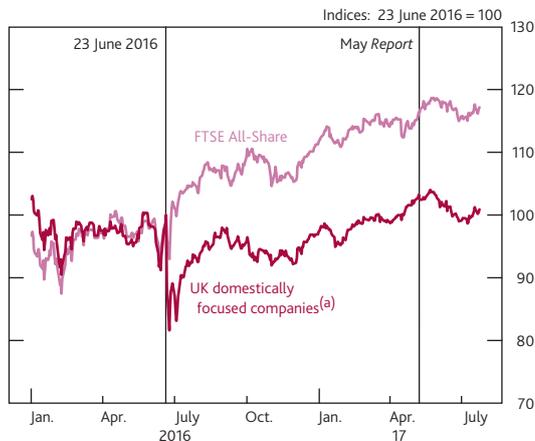
Nevertheless, market contacts primarily point to positive global growth developments to explain the recent continued decline in implied volatilities. A global economy seemingly on a firmer footing may have alleviated some of the uncertainty around the outlook. In addition, low levels of implied volatility could reflect perceptions that the global economy is less vulnerable to shocks than it may have been in the recent past. For example, a more resilient financial system should reduce the risk that negative economic developments will be amplified through a tightening in financial conditions. Low implied volatilities may also be associated with investors' belief in the ability of monetary policy makers to mitigate downside risks to growth.

Overall, the current low levels of implied volatilities are likely to reflect to some extent an improvement in risk sentiment among investors, which should help to support financing conditions for companies. Many of these measures of uncertainty can be volatile, however, and subject to sudden shifts in sentiment.

(1) For a discussion of different measures of uncertainty and their relationship with growth, see Forbes, K (2016), 'Uncertainty about uncertainty'; [www.bankofengland.co.uk/publications/Documents/speeches/2016/speech942.pdf](http://www.bankofengland.co.uk/publications/Documents/speeches/2016/speech942.pdf).

### Chart 1.13 UK domestically focused companies' equity prices have underperformed

FTSE All-Share and UK domestically focused companies' equity prices

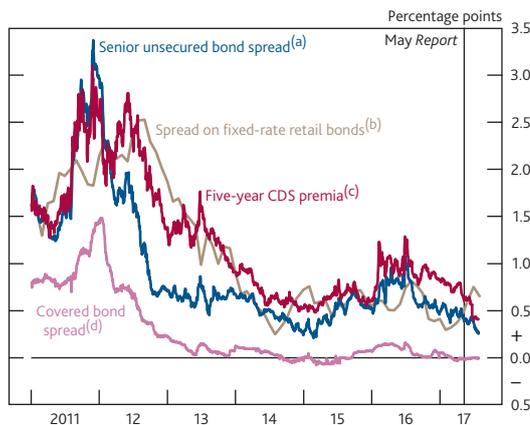


Sources: Bloomberg, Thomson Reuters Datastream and Bank calculations.

(a) UK domestically focused companies are defined as those generating at least 70% of their revenues in the United Kingdom, based on annual financial accounts data on companies' geographic revenue breakdown.

### Chart 1.14 UK bank funding spreads have narrowed over the past year

UK banks' indicative longer-term funding spreads



Sources: Bank of England, Bloomberg, IHS Markit and Bank calculations.

- (a) Constant-maturity unweighted average of secondary market spreads to mid-swaps for the major UK lenders' five-year euro-denominated 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.
- (c) Unweighted average of five-year euro-denominated 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 when unavailable.

the outlook — to raise the rate further, to 1%, at its November meeting.<sup>(1)</sup> Those changes are expected to lead to a small increase in banks' overall funding costs.<sup>(2)</sup> The FPC reaffirmed that banks' capital buffers exist to be used as necessary to allow banks to support the real economy in the event of a downturn. Overall, as recent rises in market interest rates are passed through, interest rates on household and corporate loans are expected to increase gradually (Section 2).

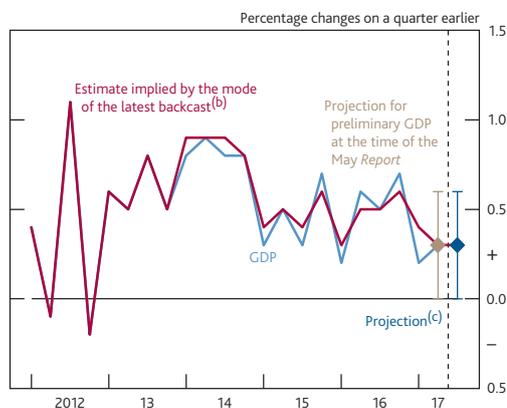
(1) For more detail on the FPC's decision, see the June 2017 *Financial Stability Report*; [www.bankofengland.co.uk/publications/Documents/fsr/2017/fsrjun17.pdf](http://www.bankofengland.co.uk/publications/Documents/fsr/2017/fsrjun17.pdf).

(2) For more detail on the link between macroprudential capital policy and UK credit conditions, see Harimohan, R and Nelson, B (2014), 'How might macroprudential capital policy affect credit conditions?', *Bank of England Quarterly Bulletin*, Vol. 54, No. 3, pages 287–303; [www.bankofengland.co.uk/publications/Documents/quarterlybulletin/2014/qb14q303.pdf](http://www.bankofengland.co.uk/publications/Documents/quarterlybulletin/2014/qb14q303.pdf).

## 2 Demand and output

Output growth slowed in the first half of 2017. Much of that slowing appears to have been driven by weaker growth in household spending, as sterling's depreciation weighed on real income growth. Net trade has been volatile, but the depreciation and the strength in global demand are expected to provide support. Business investment growth has picked up a little and, together with net trade, is projected to offset part of the weakness from household spending.

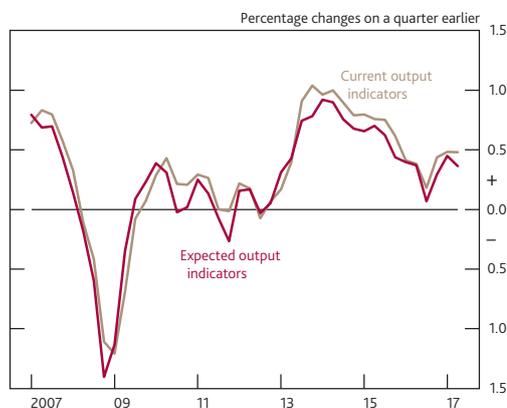
**Chart 2.1 GDP growth is expected to remain subdued in Q3**  
Output growth and Bank staff's near-term projection<sup>(a)</sup>



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 2017 Q3, to the right of the vertical line, is consistent with the MPC's central projection.  
 (c) The blue diamond shows Bank staff's projection for preliminary GDP growth in 2017 Q3. 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 quarterly GDP growth made since 2004.

**Chart 2.2 Indicators of expected output growth fell in Q2**  
Survey indicators of current and expected output growth<sup>(a)</sup>



Sources: BCC, CBI, IHS Markit, ONS and Bank calculations.

- (a) Fitted values from regressions of the principal components of the BCC, CBI and Markit/CIPS survey indicators of current and expected growth on quarterly growth in preliminary estimates of GDP. Sectoral balances are weighted together according to their shares in GDP; balances for domestic and foreign sales are weighted together according to their shares in the 2014 Supply and Use tables.

Sterling has depreciated sharply since the EU referendum and, in the run-up to the August Report, was 18% lower than its November 2015 peak. That is raising UK import prices (Section 4), reducing households' purchasing power and weighing on their consumption. Combined with the strength of global demand, however, the depreciation should also support growth in exports and investment in export capacity. A key factor affecting the outlook for GDP growth is the extent to which lower growth in household spending is offset by net trade and business investment growth. That will also be influenced by how households and companies anticipate and respond to the prospect of the United Kingdom's departure from the European Union.

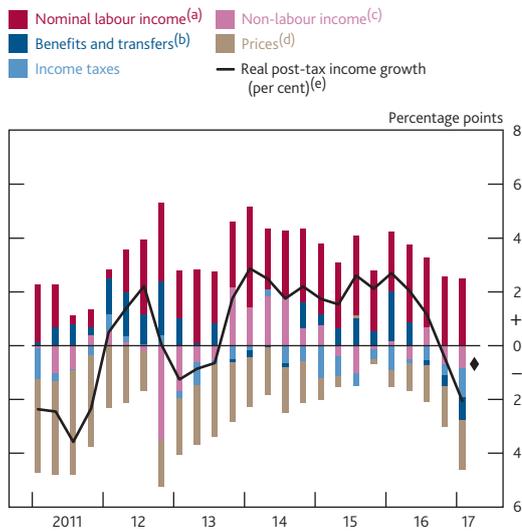
GDP growth slowed sharply in 2017 Q1, to 0.2% (Chart 2.1), and remained sluggish at 0.3% in Q2. The GDP backcast, which takes into account the revision properties of the official data and information from business surveys, suggests that growth in Q1 was higher, at 0.4%. The MPC projects growth to be unrevised at 0.3% in Q2.

The slowdown in growth since 2016 has been mainly accounted for by slower growth in service sector output. That is likely in part to reflect weak growth in household consumption (Section 2.1), although output in consumer-facing sectors such as retail trade bounced back somewhat in Q2. Consumption is projected to remain subdued in coming quarters, as real income growth remains weak and households continue to adjust to past falls in their purchasing power.

According to official estimates, manufacturing output fell a little in Q2, reflecting a decline in motor vehicle production. Manufacturing activity is expected to improve in the near term, however, reflecting the support to UK exports from sterling's depreciation and the strength in global demand (Section 2.2). That may also provide some support to business investment by firms in the tradable sector of the economy (Section 2.3).

**Chart 2.3** Rising import prices have weighed on household real income growth

Contributions to four-quarter real post-tax income growth



- (a) Wages and salaries plus mixed income.  
 (b) General government benefits less employees' National Insurance contributions, plus private pension receipts.  
 (c) Non-labour income forms the remainder of total post-tax income. It includes household gross operating surplus, net property income and the adjustment for the change in household pension entitlements, net of other taxes.  
 (d) Measured using the consumption deflator (including non-profit institutions serving households).  
 (e) Nominal post-tax income divided by the consumption deflator (including non-profit institutions serving households). The diamond shows Bank staff's projection for 2017 Q2.

**Table 2.A** Household consumption growth slowed in Q1  
 Expenditure components of demand<sup>(a)</sup>

	Quarterly averages							
	1998–2007	2008–09	2010–12	2013–14	2015	2016 H1	2016 H2	2017 Q1
Household consumption <sup>(b)</sup>	0.9	-0.6	0.2	0.5	0.7	0.7	0.7	0.4
Private sector investment	0.7	-4.4	1.6	1.1	0.8	0.0	0.0	1.2
of which, business investment <sup>(c)</sup>	0.6	-3.0	1.9	0.8	0.5	-0.2	-0.3	0.6
of which, private sector housing investment	0.8	-7.4	0.8	2.8	1.7	0.4	0.6	2.4
Private sector final domestic demand	0.8	-1.3	0.6	0.7	0.7	0.6	0.6	0.5
Government consumption and investment <sup>(c)</sup>	0.8	0.9	-0.1	0.4	0.3	0.3	0.2	0.7
Final domestic demand	0.8	-0.8	0.4	0.6	0.6	0.5	0.5	0.6
Change in inventories <sup>(d)(e)</sup>	0.0	0.2	0.0	0.0	-0.2	0.0	-0.1	-0.1
Alignment adjustment <sup>(e)</sup>	0.0	-0.1	0.0	0.1	-0.1	-0.1	0.1	0.0
Domestic demand <sup>(f)</sup>	0.8	-0.8	0.4	0.8	0.1	0.5	0.3	1.0
'Economic' exports <sup>(g)</sup>	1.2	-1.1	0.7	0.8	1.9	-0.8	1.2	-0.7
'Economic' imports <sup>(g)</sup>	1.4	-1.2	0.8	1.1	1.1	0.4	0.6	1.7
Net trade <sup>(e)(g)</sup>	-0.1	0.0	0.0	-0.1	0.2	-0.4	0.2	-0.8
Real GDP at market prices	0.7	-0.7	0.4	0.7	0.4	0.4	0.6	0.2
Memo: nominal GDP at market prices	1.2	-0.2	0.9	1.0	0.5	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) Includes acquisitions less disposals of valuables.  
 (g) Excluding the impact of missing trader intra-community (MTIC) fraud.

GDP growth is projected to remain at 0.3% in Q3. Survey indicators of expected activity growth weakened somewhat in Q2 (Chart 2.2), which on its own would point to a slight slowing in growth in Q3. Set against that, however, the levels of survey indicators of current and expected growth have been consistent with stronger growth than the official data in recent quarters. Much of that strength relative to the official data is concentrated in the manufacturing sector and is at odds with the fall in manufacturing output in Q2.

## 2.1 Household spending

The 18% depreciation of sterling since November 2015 is raising UK import prices (Section 4) and weighing on household real income growth (Chart 2.3). The pace at which households moderate their spending in response will be a key determinant of the outlook for overall GDP growth.

Household spending growth slowed in Q1 to 0.4% (Table 2.A). That was slightly stronger than expected in May, and much stronger than total household real income which fell by 1.3% in Q1. As a consequence, the household saving ratio fell from 3.3% to 1.7%, its lowest level since the series began in 1963.

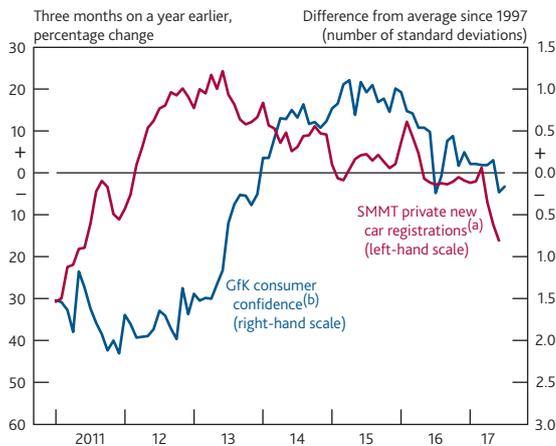
Part of the sharp fall in real income was caused by a temporary increase in the amount paid in taxes on dividends, however. The effective rate of tax on dividends was raised in April 2016. That led to some dividend payments being brought forward ahead of that date, much of the tax on which was paid in 2017 Q1. Tax payments are expected to have fallen back in Q2, and so real income and the saving ratio are expected to have bounced back slightly. As described in the box on pages 16–17 of the *May Report*, the ONS has announced changes to the measurement of dividend income ahead of *Blue Book 2017* which mean that the amount of dividend income received by households — and hence the saving ratio — will be revised up. Revised estimates for recent years will be published in August 2017.<sup>(1)</sup>

Indicators of household spending in Q2 have been mixed. Retail sales picked up, following a fall in Q1. And energy consumption is likely to have weighed on overall consumption growth by less than in Q1, when it was weaker than usual as a result of relatively warmer weather. But spending on larger items, such as cars, appears to have fallen. Private new car registrations, for example, fell by 16% in the three months to June relative to a year earlier (Chart 2.4), although part of that fall is likely to have reflected the impact of changes to vehicle tax rates that came into effect in April. In addition, contacts of the Bank's Agents reported that spending on large items such as homeware has slowed, and respondents to the

(1) For more details, see [www.ons.gov.uk/economy/nationalaccounts/uksectoraccounts/articles/nationalaccountsarticles/improvingthehouseholdprivatenonfinancialcorporationsandnonprofitsinstitutionservinghouseholdssectorsnonfinancialaccounts](http://www.ons.gov.uk/economy/nationalaccounts/uksectoraccounts/articles/nationalaccountsarticles/improvingthehouseholdprivatenonfinancialcorporationsandnonprofitsinstitutionservinghouseholdssectorsnonfinancialaccounts).

### Chart 2.4 Private new car registrations and consumer confidence have fallen

Consumer confidence and private new car registrations



Sources: GfK (research carried out on behalf of the European Commission), Society of Motor Manufacturers and Traders (SMMT) and Bank calculations.

(a) Data are to June 2017.

(b) Average of the net balances of respondents reporting that: their financial situation has got better over the past twelve months; their financial situation is expected to get better over the next twelve months; the general economic situation has got better over the past twelve months; the general economic situation is expected to get better over the next twelve months; and now is the right time to make major purchases, such as furniture or electrical goods. Data are to July 2017.

### Table 2.B Interest rates on household lending have remained stable in recent months

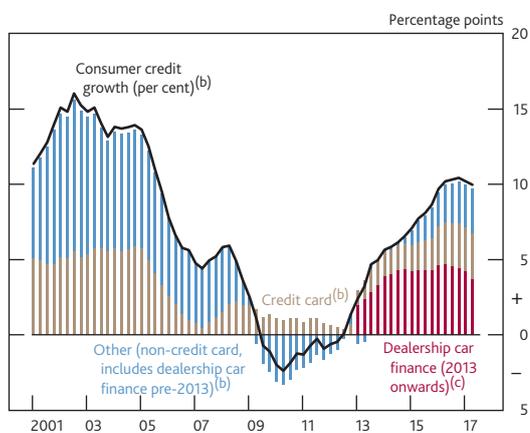
Average interest rates on household lending

	Monthly averages						
	2005–08	2009–12	2013–15	2016	2017 Q1	2017 Q2	2017 July
<b>Interest rates (per cent)<sup>(a)</sup></b>							
Two-year fixed-rate mortgage (75% LTV)	5.4	3.7	2.3	1.7	1.4	1.4	1.5
Two-year fixed-rate mortgage (90% LTV)	n.a.	6.0	4.1	2.6	2.5	2.5	2.5
£10,000 unsecured loan	7.8	9.0	5.3	4.1	3.7	3.8	3.8

(a) Sterling-only end-month quoted rates. The Bank's quoted interest rate series are weighted average 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](http://www.bankofengland.co.uk/statistics/Pages/iadb/notesiadb/household_int.aspx)). Data are non seasonally adjusted.

### Chart 2.5 Consumer credit growth has remained robust

Contributions to four-quarter consumer credit growth<sup>(a)</sup>



Sources: Bank of England and Bank calculations.

(a) See [www.bankofengland.co.uk/statistics/Pages/iadb/notesiadb/Changes\\_flows\\_growth\\_rates.aspx](http://www.bankofengland.co.uk/statistics/Pages/iadb/notesiadb/Changes_flows_growth_rates.aspx) for a description of how growth rates are calculated using credit data.

(b) Sterling net lending by UK monetary financial institutions (MFIs) and other lenders to UK individuals (excludes student loans). Non seasonally adjusted.

(c) Identified dealership car finance lending by UK MFIs and other lenders.

CBI Distributive Trades Survey reported that sales of household electrical goods fell over the year to June.

The pace at which households adjust their consumption to slowing rates of real income growth will depend on a number of factors. In the short run, households may change the amount they save or borrow to allow for only a gradual adjustment. The extent to which households can do that, however, will depend in part on their current holdings of savings and debt, which vary significantly across households (see the box on pages 14–15).

The extent to which households borrow in order to fund spending may also be affected by consumer credit conditions. These have eased in recent years, as banks' funding costs have fallen (Section 1) and competition between lenders has increased. Interest rates on a £10,000 personal loan are close to record lows (Table 2.B) and the average interest-free period on credit card balance transfers has doubled since 2011. Lenders responding to the *Credit Conditions Survey* reported that unsecured credit availability had tightened modestly in Q2 and was expected to tighten further in Q3,<sup>(1)</sup> although the level of competition between lenders remains strong.

Four-quarter growth in consumer credit has slowed slightly since late 2016, although it remained high at around 10% in Q2 (Chart 2.5). Dealership car finance accounted for a little over a third of that growth, with the remainder accounted for by credit card and other borrowing, such as personal loans.<sup>(2)</sup> The Prudential Regulation Authority's (PRA's) review of consumer credit lending, published in July, found that the resilience of lenders' consumer credit portfolios had been falling.<sup>(3)</sup> Lenders with material exposures to consumer credit will be asked to respond to that review. In addition, the Financial Policy Committee (FPC) is bringing forward the assessment of stressed losses on consumer credit lending in the Bank's 2017 annual stress test, in order to inform the assessment at its next meeting of any additional resilience required in aggregate against this lending. The FPC increased the countercyclical capital buffer rate, levied on banks' total risk-weighted UK assets, from 0% to 0.5%. It expected — absent a material change in the outlook — to raise the rate to 1% at its November meeting (Section 1).<sup>(4)</sup>

The pace at which households adjust their spending growth in response to the squeeze in real incomes will also depend on their expectations for future income growth. Having remained broadly stable in the preceding months, the GfK measure of

(1) For more details, see the 2017 Q2 *Credit Conditions Survey*; [www.bankofengland.co.uk/publications/Documents/other/monetary/ccs/2017/17q2.pdf](http://www.bankofengland.co.uk/publications/Documents/other/monetary/ccs/2017/17q2.pdf).

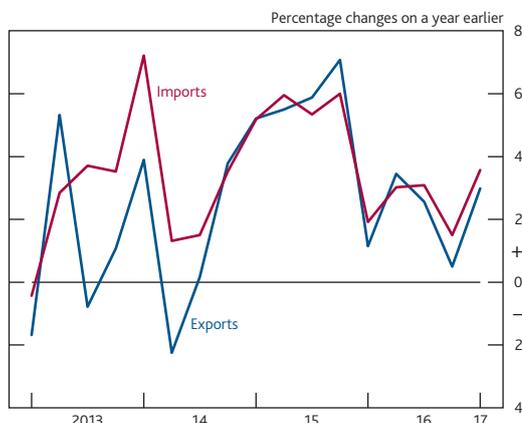
(2) For more details on the different forms of consumer credit, see the box on pages 18–19 of the June 2017 *Financial Stability Report*; [www.bankofengland.co.uk/publications/Pages/fsr/2017/jun.aspx](http://www.bankofengland.co.uk/publications/Pages/fsr/2017/jun.aspx).

(3) For more details, see the PRA statement on consumer credit; [www.bankofengland.co.uk/pradocuments/publications/reports/prastatement0717.pdf](http://www.bankofengland.co.uk/pradocuments/publications/reports/prastatement0717.pdf).

(4) For more details, see the June 2017 *Financial Stability Report*; [www.bankofengland.co.uk/publications/Pages/fsr/2017/jun.aspx](http://www.bankofengland.co.uk/publications/Pages/fsr/2017/jun.aspx).

**Table 2.C** Monitoring the MPC's key judgements

Developments anticipated in May during 2017 Q2–Q4	Developments now anticipated during 2017 Q3–2018 Q1
<b>Cost of credit</b>	<b>Broadly unchanged</b>
• Credit spreads to be broadly flat.	• Credit spreads to be broadly flat.
<b>Consumer spending</b>	<b>Broadly unchanged</b>
• Quarterly growth in real post-tax household income to average ¼% in Q2 and Q3, slowing further to 0% by the end of the year.	• Real post-tax household income to be broadly flat.
• Quarterly consumption growth to average ¼%.	• Quarterly consumption growth to average ¼%.
<b>Housing market</b>	<b>Revised down</b>
• Mortgage approvals for house purchase to average around 71,000 per month.	• Mortgage approvals for house purchase to average around 66,000 per month.
• The average of the Halifax/Markit and Nationwide house price indices to increase by ½% per quarter, on average.	• The average of the Halifax/Markit and Nationwide house price indices to increase by a little less than ½% per quarter, on average.
• Quarterly housing investment growth to average 1%.	• Quarterly housing investment growth to average 1%.
<b>Business investment</b>	<b>Revised down slightly</b>
• Quarterly growth in business investment to average 1%.	• Quarterly growth in business investment to average ½%.
<b>Trade</b>	<b>Broadly unchanged</b>
• Net trade to provide a small boost to quarterly GDP growth.	• Net trade to provide a small boost to quarterly GDP growth.

**Chart 2.6** UK import growth has outstripped export growth recentlyExport and import volumes<sup>(a)</sup>

(a) Chained-volume measures, excluding the impact of MTIC fraud and unspecified goods. The largest components of unspecified goods are non-monetary gold and precious metals; for more information on the components of unspecified goods, see <https://unstats.un.org/unsd/cr/registry/regcst.asp?Cl=14> (section 9).

consumer confidence fell in June to a little below its historical average and remained there in July (Chart 2.4). That fall was driven by lower household confidence in the general economic situation, as well as a fall in the net balance of households reporting that now is the right time to make major purchases. In contrast, the net balance of households expecting their financial situation to improve over the year ahead has remained broadly unchanged, at a little above its past average.

The housing market can also reflect households' income expectations, since those expectations tend to affect the amount households are willing to spend on a new home. Activity and house price inflation have weakened further since May and are projected to remain weak in coming quarters (see the box on pages 17–18). These developments are consistent with subdued household spending growth in the near term.

Overall, consumption growth is projected to remain subdued in coming quarters, broadly as expected in May (Table 2.C). That reflects continued weak real income growth due to rises in import prices (Section 4) and subdued wage growth (Section 3), as well as a further adjustment by households to the past weakness in real income growth. Further ahead, consumption growth is projected to rise gradually as wage growth starts to pick up and the drag from sterling's depreciation on real income growth wanes (Section 5).

## 2.2 Net trade and the current account

### Exports

While sterling's depreciation has weighed on household real income growth, it will have supported margins for exporters. Together with the boost provided by the recent strength in global demand (Section 1), that is likely to support growth in export volumes. The outlook for export growth will also depend on any changes to the United Kingdom's trading arrangements and how companies anticipate and respond to these (Section 5).

Between the end of 2015 and 2017 Q1, export prices fell by 5% in foreign currency terms, suggesting some increase in competitiveness. But they rose by 13% in sterling terms, meaning that exporters' margins are likely to have increased. Consistent with that, survey measures of margins on exports have picked up in recent months. The Agents' profit margin company visit scores, for example, have generally been above normal for export-focused companies since late 2016, while those for domestic-focused companies have remained below normal. The rise in export margins is likely to support an expansion in export volumes among firms with spare capacity. As that capacity is eroded, and for firms with limited spare capacity, those higher margins should provide an incentive to invest (Section 2.3), thereby boosting export volumes over time.

## How might households respond to the real income squeeze?

Household purchasing power has fallen in recent months as sterling's depreciation has pushed up the prices of imported goods and services. A key factor for the outlook for GDP growth is the speed and extent to which households adjust their spending in response. This is likely to depend on a number of factors including their holdings of savings and debt. Households with larger savings might be able to reduce spending by less in the short term, by running down those savings or by saving less each month. In contrast, those with higher debt may need to reduce spending more quickly in order to continue to meet their debt repayments, particularly if those repayments are high relative to their incomes. This box examines evidence on how different households are likely to respond to falls in their real incomes using the results of the latest household survey carried out for the Bank by NMG Consulting in May.

Households were asked how they would adjust spending in response to a 5% rise in the prices of all the goods and services they consumed.<sup>(1)</sup> Although not identical, this situation is similar to the current squeeze in real incomes caused by sterling's depreciation. The possible responses fell into three main categories. First, households could respond that they would buy the same goods and services as they do currently, even though they cost more. That would mean maintaining spending in real terms and increasing it in nominal terms. Second, households could respond that they would spend extra on some goods and services while cutting back on others. That would mean reducing spending in real terms but by less than the fall in real income, such that nominal spending still increased. And third, households could respond that they would spend no more than they do currently in nominal terms, such that real spending falls by at least as much as the fall in real income. Around a third of respondents fell into each of these three categories (Chart A).

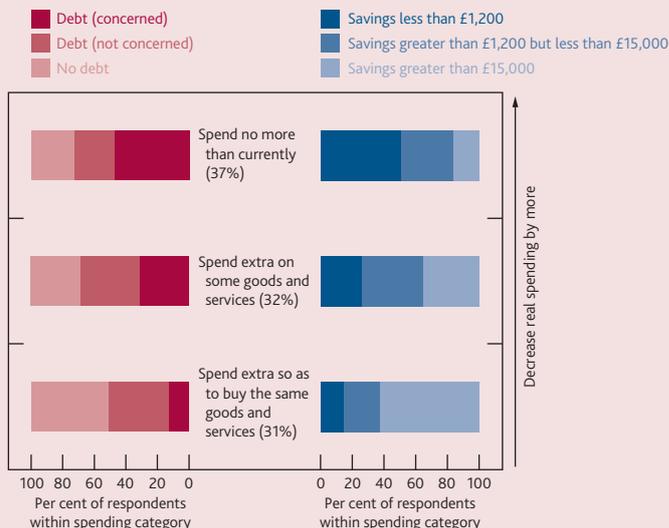
The survey results suggest that households who would reduce real spending the most tended to have fewer savings and be more concerned about their debt. Chart A shows that around half of those who reported that they would spend no more than they do currently in nominal terms had less than £1,200 of savings. In contrast, 60% of those who would maintain their spending in real terms had over £15,000 of savings. Those who reported that they would cut real spending also tended to hold more debt, and to be more concerned about that debt.

Those households who would increase nominal spending in response to the fall in their real income would need to pay for that extra spending. The majority of these households

reported that they would run down their savings, or save less each month (Chart B). In contrast, fewer than 10% would borrow in order to finance the increase. Consistent with the fact that they tend to have fewer savings, a larger proportion

**Chart A Households who would cut real spending tended to have fewer savings and higher debt**

Results from the NMG Consulting survey<sup>(a)</sup>

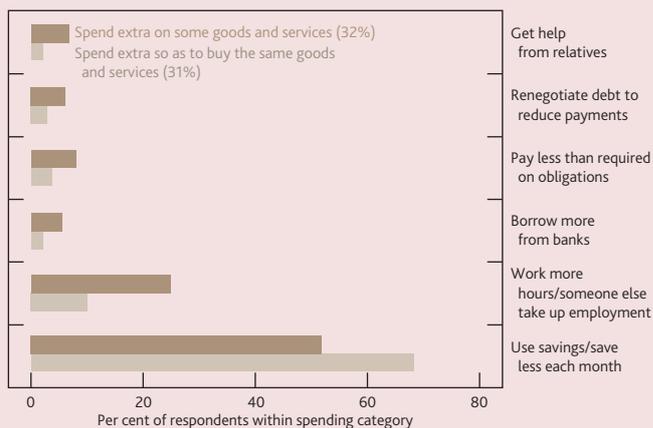


Sources: NMG Consulting survey and Bank calculations.

(a) Households are grouped by their responses to the question of how they would adjust spending in response to the scenario described in footnote (1). Figures in parentheses next to each group indicate the proportion of households who would respond in each of the three ways. The left-hand side of the chart shows the proportion of households within each response category who (i) had no debt; (ii) had debt but were not at all concerned about it; and (iii) had debt and were somewhat or very concerned about it. The right-hand side shows the proportion of households within each response category with different amounts held in savings accounts.

**Chart B Most households financing higher nominal spending would use their savings to do so**

Results from the NMG Consulting survey<sup>(a)</sup>



Sources: NMG Consulting survey and Bank calculations.

(a) Households who reported that they would increase nominal spending in response to the scenario in footnote (1), as in Chart A, are grouped by the ways in which they would finance that spending. Households were allowed to select up to three options.

(1) The scenario was: 'We'd like you to imagine a scenario where the price of all goods and services you buy increased for a sustained period. Imagine the cost of everything — food, clothes, travel costs, getting your hair cut, getting the car washed etc — increased by 5% from tomorrow. Please assume your income would not be any higher unless you take action to increase it'.

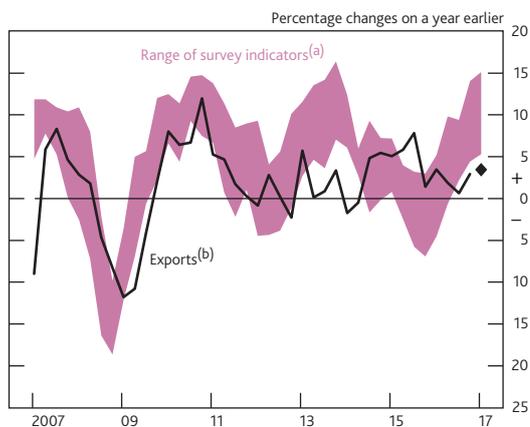
of households who would partially cut real spending reported that they would fund the extra nominal spending by working more (Section 3).

Over time, households will need to adjust their spending towards the lower level of their real income. The responses to the NMG survey suggest that households in aggregate will adjust spending only gradually. In addition, the variation

between responses means that the overall impact will depend in part on which types of households have experienced the largest squeeze in their real incomes and how much of aggregate spending those households account for. The MPC will continue to monitor both the aggregate response to the real income squeeze, and how that response appears to be varying across households.

**Chart 2.7 Surveys continue to point to a pickup in export growth**

UK exports and survey indicators of export growth



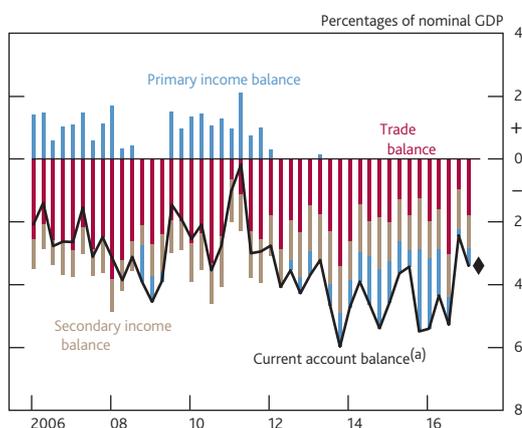
Sources: Bank of England, BCC, CBI, EEF, IHS Markit, ONS and Bank calculations.

(a) Swathe includes: BCC net percentage balance of manufacturing and services companies reporting that export orders and deliveries increased on the quarter or were expected to increase over the following quarter (data are non seasonally adjusted); CBI average of the net percentage balances of manufacturing companies reporting that export orders and deliveries increased on the quarter, and that their present export order books are above normal (the latter series is a quarterly average of monthly data); Markit/CIPS net percentage balance of manufacturing companies reporting that export orders increased this month compared with the previous month (quarterly average of monthly data); Agents measure of manufacturing companies' reported annual growth in production for sales to overseas customers over the past three months (last available observation for each quarter); EEF average of the net percentage balances of manufacturing companies reporting that export orders increased over the past three months and were expected to increase over the next three months. Indicators are scaled to match the mean and variance of four-quarter export growth since 2000.

(b) Chained-volume measure, excluding the impact of MTIC fraud. The diamond shows Bank staff's projection for 2017 Q2.

**Chart 2.8 The current account deficit widened slightly in Q1**

UK current account



(a) The diamond shows Bank staff's projection for 2017 Q2.

UK export volumes fell in Q1 (Table 2.A), but that largely reflected a fallback in exports of non-monetary gold following a sharp rise in Q4. This is a volatile component of net trade which is offset by same-sized movements in private sector investment in valuables.<sup>(1)</sup> Excluding the impact of non-monetary gold and other valuables, UK exports rose by 0.7% in Q1, and by 3% over the year to Q1 (Chart 2.6). That was lower than expected in May, reflecting weak growth in services exports, although growth in goods exports was relatively strong.

Export volumes are projected to grow modestly in the near term. That growth is a little stronger than expected in May, reflecting the further depreciation of sterling since then (Section 1). Consistent with that, survey measures of export orders and deliveries have continued to rise (Chart 2.7).

### Imports and the current account

Although sterling's depreciation has raised the price of imported goods and services (Section 4), growth in UK imports has nevertheless outstripped growth in exports since 2016 H2 (Chart 2.6). As a consequence, and excluding the impact of non-monetary gold and other valuables, net trade subtracted 0.4 percentage points from GDP in Q1.

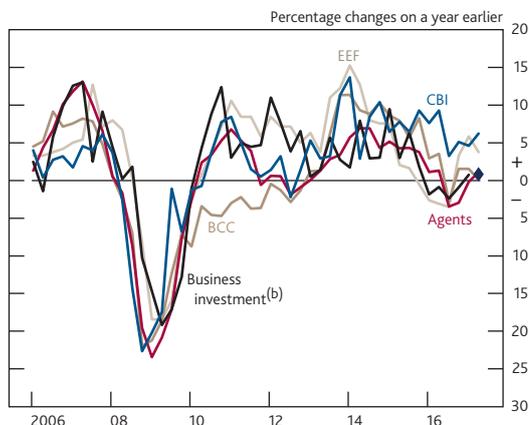
Import growth is projected to slow a little in coming quarters. When combined with the expected growth in exports, this means that net trade is projected to provide a small boost to GDP growth over the remainder of 2017, broadly as expected in May. That offsets part of the near-term weakness in household spending growth (Section 2.1).

The weakness in net trade meant that the current account deficit — which reflects the balance of nominal trade flows and other payments between the United Kingdom and the rest of the world — widened to 3.4% of GDP in Q1 (Chart 2.8). A small part of that widening was also due to an increase in the deficit on primary income, the net value of investment income received by UK residents. The current account deficit is expected to have remained at around that level in Q2.

(1) For more details, see 'A brief explanation of non-monetary gold', ONS National Accounts Articles, March 2017; [www.ons.gov.uk/economy/nationalaccounts/uksectoraccounts/articles/nationalaccountsarticles/abriefexplanationofnonmonetarygoldinnationalaccounts](http://www.ons.gov.uk/economy/nationalaccounts/uksectoraccounts/articles/nationalaccountsarticles/abriefexplanationofnonmonetarygoldinnationalaccounts).

**Chart 2.9 Indicators of businesses' investment intentions continue to point to near-term growth**

Business investment and survey indicators of investment intentions<sup>(a)</sup>



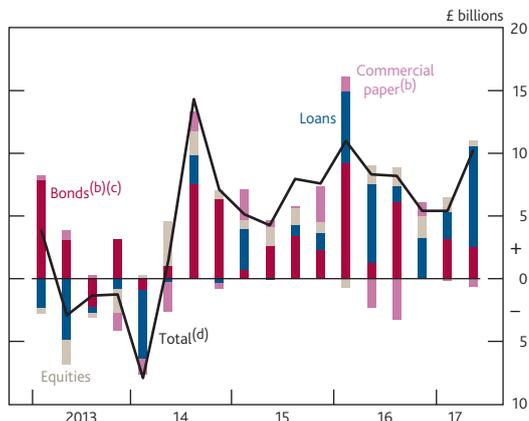
Sources: Bank of England, BCC, CBI, CBI/PwC, EEF, ONS and Bank calculations.

(a) Survey measures are scaled to match the mean and variance of four-quarter business investment growth since 2000. EEF and CBI measures are the net percentage balances of respondents reporting that they have increased planned investment in plant and machinery for the next twelve months. BCC measure is the net percentage balance of respondents reporting that they have increased planned investment in plant and machinery; data are non seasonally adjusted. Agents measure shows companies' intended changes in investment over the next twelve months; last available observation for each quarter. The sectors within the CBI, BCC and Agents measures are weighted together using shares in real business investment. EEF measure is for the manufacturing sector.

(b) Chained-volume measure. Data adjusted for the transfer of the nuclear reactors from the public corporation sector to central government in 2005 Q2. The diamond shows Bank staff's projection for 2017 Q2.

**Chart 2.10 Net external finance raised by UK companies picked up in 2017 Q2**

Net external finance raised by UK private non-financial corporations<sup>(a)</sup>



(a) Includes sterling and foreign currency funds from UK MFIs and capital markets.

(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.

## 2.3 Business investment

The strength in global demand and sterling's depreciation are likely to increase firms' incentives to invest in export capacity. Following a fall over 2016, business investment is estimated to have risen by 0.6% in Q1 (Table 2.A), broadly as expected in May. Investment is projected to continue to grow at a solid pace in the near term, albeit by a little less than projected in May (Table 2.C). That is broadly consistent with surveys of investment intentions, some of which weakened a little in Q2 (Chart 2.9).

In addition to the boost provided by the strength of global demand, the rate of return on capital as measured by the ONS remains high and spare capacity is limited. Financing conditions may also provide some support to investment in the near term. Both the cost of corporate bond issuance (Section 1) and the cost of bank loans for businesses have fallen since the start of 2016, although increases in market interest rates have raised the cost of bond issuance more recently and are likely to exert some upwards pressure on the cost of bank loans in coming quarters. Overall net finance raised by companies picked up in Q2, having been relatively weak in the previous two quarters (Chart 2.10).

Set against the support for investment from global conditions and financing costs, sterling's depreciation is likely to raise the cost of investment because, with the exception of buildings (around one quarter of the total), investment is relatively import-intensive.

In addition, the anticipation of Brexit and related uncertainties are likely to dampen investment growth somewhat. Two fifths of respondents to a recent CBI survey on investment reported that Brexit had negatively affected their investment decisions. And the Bank's Agents report that uncertainty surrounding the United Kingdom's future trading arrangements has meant that some larger firms, and those more exposed to a potential change in trading arrangements, have been delaying medium and longer-term investment plans. Some firms have considered relocating elements of activity to other countries, or refocusing investment outside the United Kingdom, in order to mitigate any adverse impacts.

Taken as a whole, investment is projected to grow less strongly than would have been expected given the strength in global and financial conditions (Section 5). Investment remains weak relative to the size of the capital stock and so the capital stock is projected to expand only slowly over the forecast period.

## 2.4 Government spending

The MPC's forecasts are conditioned on the Government's tax and spending plans detailed in the Spring 2017 Budget. Under those plans, the fiscal consolidation is set to continue. That weighs on overall GDP growth over the MPC's forecast period.

## Recent developments in the housing market

UK housing market activity and house price inflation have slowed over the past 18 months, and that slowdown has gathered pace since the start of the year. House prices were broadly flat in Q2 (top panel of **Chart A**). And mortgage approvals fell to around 65,000 per month (middle panel of **Chart A**), weaker than expected in May. In contrast, new house building has been robust, with housing starts having increased by 26% in the year to 2017 Q1 (bottom panel of **Chart A**). This box explores some of the possible drivers of these developments, together with their implications for the near-term outlook.

### Explaining the recent weakness in the housing market

Much of the weakness in housing market activity over the past 18 months reflects a fall in the number of buy-to-let property transactions following policy changes such as the introduction of the stamp duty charge for additional properties in April 2016. Buy-to-let mortgage completions fell sharply in April 2016 (middle panel of **Chart A**) and have remained broadly flat since then. Perhaps consistent with that, the slowdown in housing market activity over the past 18 months has been particularly pronounced in London and the South East, which together account for around 50% of buy-to-let transactions. Activity may also have been affected by uncertainty surrounding the EU referendum.

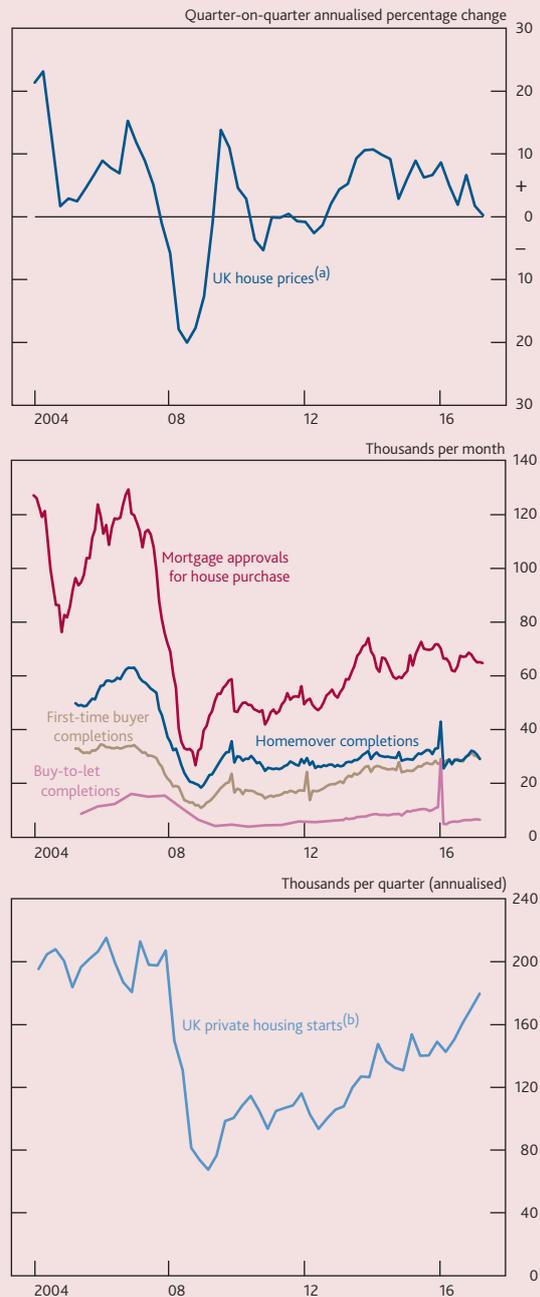
The most recent falls in house prices and activity do not appear to have been driven by weakness in the buy-to-let market, however. The latest fall in mortgage approvals has largely reflected falls in the number of homemovers and first-time buyers. And the slowdown appears to have been a little more broad-based across regions, with contacts of the Bank's Agents reporting that housing demand has softened in many parts of the United Kingdom in recent months.

That more widespread slowdown is likely to have been driven by some of the same factors driving the weakness in spending, in particular the weakness in income growth (Section 2.1). Since households tend to have some flexibility in moving house, they may choose to delay moving or to reduce the amount they are willing to spend following a period of weak income growth, especially if they are uncertain about their likely income levels in the longer term. That may particularly constrain activity in areas such as London and the South East, where house prices are higher relative to incomes.<sup>(1)</sup>

In contrast to the weakness in house price inflation and housing activity, housing investment grew by 1.8% in Q1, stronger than expected in May. Around a quarter of housing investment is comprised of spending on services associated with property transactions, while the remainder is formed of

### Chart A House prices and activity have slowed but new building has continued to increase

House prices, mortgage approvals for house purchase, mortgage completions and housing starts



Sources: Bank of England, Council of Mortgage Lenders, Department for Communities and Local Government, IHS Markit, Nationwide and Bank calculations.

- (a) Average of the quarterly Halifax/Markit and Nationwide house price indices.  
 (b) Number of permanent dwellings in the United Kingdom started by private enterprises up to 2016 Q3. Data for Q4 and 2017 Q1 have been grown in line with permanent dwelling starts by private enterprises in England. Data are seasonally adjusted by Bank staff.

(1) For more details on the level of house prices relative to incomes, see the box on page 12 of the June 2017 *Financial Stability Report*; [www.bankofengland.co.uk/publications/Pages/fsr/2017/jun.aspx](http://www.bankofengland.co.uk/publications/Pages/fsr/2017/jun.aspx).

new building and improvements to existing properties. Growth in new housing starts has been robust, which will support measured housing investment over time as those homes are built. Contacts of the Bank's Agents report that the strength in starts has partly reflected strong demand for new-build properties from first-time buyers using the Help to Buy equity loan scheme, which offers government-funded equity loans of up to 20% of the purchase price of a new-build property.

### Outlook for the housing market and impact on the wider economy

Continued weak income growth in the near term is likely to mean that price inflation and activity in the housing market remain subdued over coming quarters. Set against that, however, mortgage interest rates remain around record lows (**Table 2.B**) and should continue to support housing demand, although recent increases in market interest rates (Section 1) are likely to push up mortgage rates a little in the near term. Recent action by the Financial Policy Committee, by promoting consistency across lenders in the tests they use to assess mortgage affordability, should insure against the risk of a loosening in underwriting standards.<sup>(1)</sup>

Annualised house price inflation is projected to pick up only gradually, and mortgage approvals are projected to remain broadly flat in the near term. That is weaker than expected in

May, in line with the net balances of responses to the RICS survey, which point to smaller rises in house prices and sales over the next twelve months than earlier in the year.

Housing market developments tend to be closely linked to consumption growth, in large part because both tend to be driven by common factors such as household confidence and income expectations. To the extent that the near-term weakness in the housing market is being driven by weak income growth, that is likely to be consistent with subdued growth in household spending (Section 2.1). The weakness in the housing market may also reduce spending growth directly, by lowering the value of homeowners' equity against which they can borrow, although this effect is estimated to be small.<sup>(2)</sup>

While weaker housing market activity will weigh on the pace of housing investment growth, the recent strength in housing starts is likely to support it in the near term. Housing investment growth is projected to be relatively strong in the second half of 2017, before falling back further ahead.

(1) For more details, see the box on page 13 of the June 2017 *Financial Stability Report*; [www.bankofengland.co.uk/publications/Pages/fsr/2017/jun.aspx](http://www.bankofengland.co.uk/publications/Pages/fsr/2017/jun.aspx).

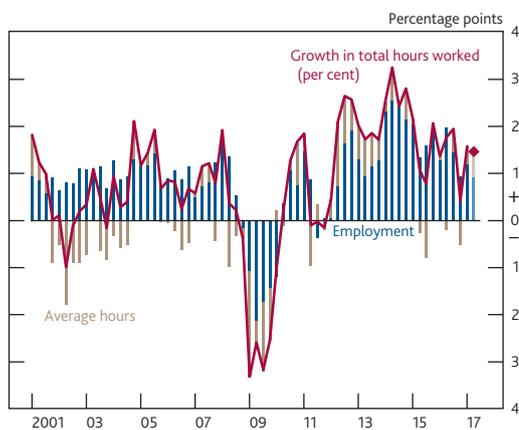
(2) For more details on the ways in which the housing market can affect household spending, see the box on pages 18–19 of the November 2016 *Report*; [www.bankofengland.co.uk/publications/Pages/inflationreport/2016/nov.aspx](http://www.bankofengland.co.uk/publications/Pages/inflationreport/2016/nov.aspx).

# 3 Supply and the labour market

Growth in companies' demand for labour appears to have remained resilient in recent months, with quarterly employment growth picking up in 2017 H1. Despite a further fall in unemployment, wage growth remains subdued, probably in part due to continued weak productivity growth. Wage growth is projected to remain modest in the near term, before recovering somewhat further ahead reflecting underlying tightness in the labour market.

**Chart 3.1** Growth in total hours worked has been robust over the past year

Contributions to four-quarter growth in total hours worked<sup>(a)</sup>

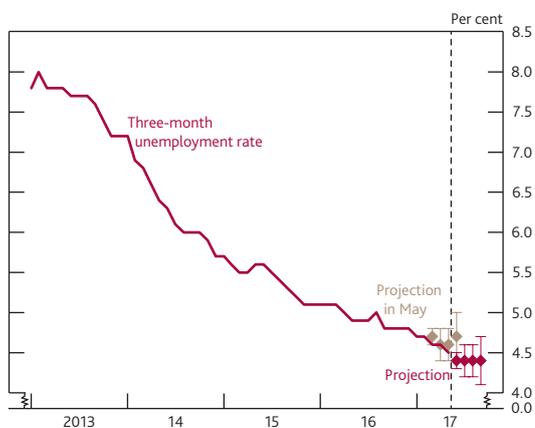


Sources: Labour Force Survey and Bank calculations.

(a) Diamond and light bars are Bank staff's projections for 2017 Q2, based on data to May.

**Chart 3.2** Unemployment is expected to have fallen slightly further in 2017 Q2

Unemployment rate and Bank staff's near-term projection<sup>(a)</sup>



(a) The beige diamonds show Bank staff's central projections for the headline unemployment rate for the three months to March, April, May and June 2017, at the time of the May Report. The red diamonds show the current staff projections for the headline unemployment rate for the three months to June, July, August and September 2017. 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 headline unemployment rate.

Output growth has slowed since last year (Section 2), but labour demand growth has remained relatively resilient. Annual growth in total hours worked is only slightly lower than a year ago (Chart 3.1), with a rise in average hours worked partially offsetting a decline in annual employment growth. That resilience has been associated with a continued tightening in labour market conditions (Section 3.1).

A key indicator of tightness in the labour market is the unemployment rate. The unemployment rate fell to 4.5% in the three months to May, and is expected to have fallen slightly further to 4.4% in the three months to June (Chart 3.2). That was lower than expected at the time of the May Report and is broadly in line with the MPC's estimate of the equilibrium rate of unemployment, as set out in the box on pages 18–20 of the February Report.

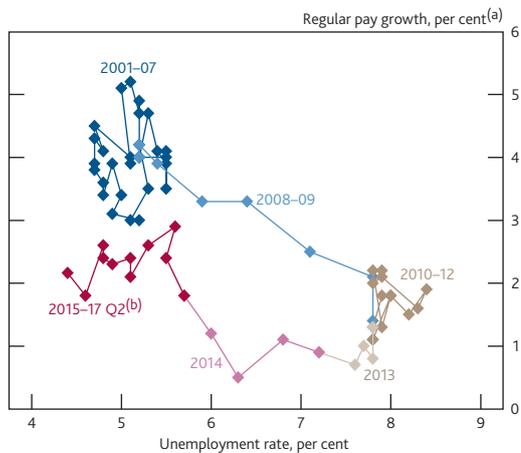
Changes in the degree of tightness in the labour market are usually reflected in wage growth as they influence how much companies need to pay to hold on to their employees or hire new ones. Wage growth slowed, for example, as unemployment increased during the financial crisis (Chart 3.3). But wage growth has not picked up to past rates as unemployment has declined, and has actually fallen back since the end of 2016. Regular pay growth, which excludes bonuses, is expected to have been only 2.2% in 2017 Q2 (Chart 3.4), although that was a little higher than expected in May.<sup>(1)</sup>

As has been the case for several years, much of the continued weakness in wage growth is likely to reflect subdued productivity growth (Section 3.2). Over time, the pace of wage growth is determined largely by productivity growth and the price of domestic output, as that determines the revenue available to companies to pay wages. While wage growth can be volatile, it is also possible that other factors, such as

(1) Recent improvements to the methodology used by the ONS to estimate the pay of employees of small businesses mean that estimates for the level of AWE since 2000 have been revised. For more detail on these revisions, see [www.ons.gov.uk/employmentandlabourmarket/peopleinwork/earningsandworkinghours/articles/improvementstoearningsestimatesforsmallbusinessesinaverageweeklyearnings/2017](http://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/earningsandworkinghours/articles/improvementstoearningsestimatesforsmallbusinessesinaverageweeklyearnings/2017).

**Chart 3.3 Wage growth has remained subdued as the unemployment rate has fallen**

Wage Phillips curve: wage growth and unemployment

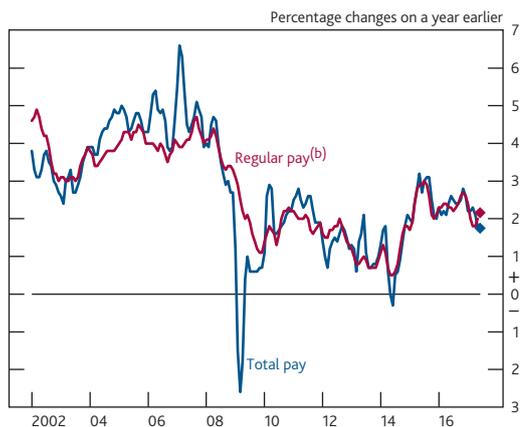


(a) Whole-economy average weekly earnings (AWE) total pay excluding bonuses and arrears of pay. Percentage changes on a year earlier.

(b) Diamond for 2017 Q2 shows Bank staff's projection, based on data to May.

**Chart 3.4 Wage growth is expected to have remained subdued in 2017 Q2**

Average weekly earnings: total and regular pay<sup>(a)</sup>



(a) Diamonds show Bank staff's projections for 2017 Q2, based on data to May.

(b) Whole-economy total pay excluding bonuses and arrears of pay.

**Table 3.A Employment growth appears to have slowed in 2017 Q2**

Employment growth

	Quarterly averages								
	2000–07	2008–09	2010–12	2013–14	2015	2016 H1	2016 H2	2017 Q1	2017 Q2
Change in employment (thousands) <sup>(a)</sup>	70	-59	67	130	147	104	46	121	81
of which, employees <sup>(a)</sup>	55	-67	32	106	110	48	32	136	n.a.
of which, self-employed and other <sup>(a)(b)</sup>	16	7	35	24	36	56	14	-15	n.a.

(a) Changes relative to the previous quarter. Figure for 2017 Q2 is Bank staff's projection, based on data to May.

(b) Other comprises unpaid family workers and those on government-supported training and employment programmes classified as being in employment.

uncertainty around the economic outlook and subdued wage expectations, may be weighing on wage growth at present (Section 3.3). The outlook for wages will depend, in part, on the role of these factors and how persistent they prove to be. Regular pay growth is projected to remain around its current rate over the rest of this year, before picking up further ahead as these factors wane and underlying tightness in the labour market pushes up wage demands (Section 5).

### 3.1 Labour market developments

#### Employment and unemployment

Quarterly employment growth picked up sharply in 2017 Q1 and, while it is expected to have slowed in Q2 (Table 3.A), it appears to be stronger than anticipated at the time of the *May Report*. The pickup over 2017 so far has been more than accounted for by an increase in the number of employees, with the number of self-employed having fallen slightly. While the data can be volatile, it is possible that companies reduced hiring following the EU referendum, in anticipation of a fall in demand, and subsequently began to make up the shortfall in staff numbers in Q1 as demand proved somewhat more resilient than expected. Nevertheless, over the past year as a whole, employment growth has slowed from its more rapid rates in previous years (Chart 3.1).

Indicators point to fairly solid employment growth in Q3. For example, the number of vacancies relative to the size of the labour force remained above its pre-crisis average in Q2, while the rate of redundancies remained low (Table 3.B). Most survey indicators of companies' employment intentions are also above their historical averages (Chart 3.5). Further ahead, employment growth is expected to slow somewhat, as output growth remains subdued.

Alongside the pickup in employment growth, the unemployment rate continued to fall in the three months to May, to 4.5%, and is expected to have fallen a little further more recently (Chart 3.2). The fall to May was mainly driven by a further decline in the short-term unemployment rate, with long-term unemployment broadly unchanged at around its past average rate (Table 3.B). Overall, the unemployment rate is currently judged to be broadly in line with its equilibrium rate. As set out in the *February Report*, however, there remains significant uncertainty around that equilibrium rate and there are a range of views among MPC members.

The further fall in unemployment is consistent with signs that the labour market has tightened. Most survey indicators suggest that recruitment difficulties increased during 2017 H1 and are above pre-crisis averages (Table 3.B). And contacts of the Bank's Agents report that the increase in recruitment difficulties has been broad-based across a range of sectors.

**Table 3.B Indicators suggest that the labour market has tightened further**

Indicators of labour market tightness

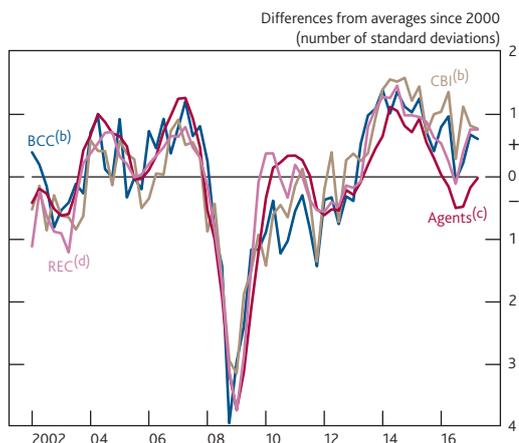
	Quarterly averages							
	2002–07	2008–09	2010–12	2013–14	2015	2016	2017 Q1	2017 Q2
Unemployment rate <sup>(a)</sup>	5.1	6.7	8.0	6.9	5.4	4.9	4.6	4.5
Long-term unemployment rate <sup>(a)(b)</sup>	1.1	1.6	2.7	2.5	1.6	1.3	1.1	1.1
Part-time workers who could not find full-time work <sup>(a)(c)</sup>	2.1	2.9	4.3	4.6	4.1	3.6	3.2	3.2
Net additional desired hours <sup>(d)</sup>	-0.2	0.2	0.4	0.4	0.2	0.1	0.1	n.a.
Vacancies to labour force ratio <sup>(e)</sup>	2.07	1.70	1.48	1.85	2.24	2.25	2.30	2.31
Redundancies to employees ratio <sup>(a)(f)</sup>	0.52	0.68	0.51	0.39	0.35	0.36	0.30	0.30
Surveys of recruitment difficulties <sup>(g)</sup>								
Agents <sup>(h)</sup>	1.1	-2.5	-1.1	0.4	2.0	1.3	1.4	1.8
BCC <sup>(i)</sup>	60	55	51	57	66	62	61	66
CBI, skilled <sup>(j)</sup>	27	15	16	23	34	32	32	30
CBI, other <sup>(j)</sup>	8	2	2	3	8	8	6	8

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

- (a) Figures for 2017 Q2 are for the three months to May.  
 (b) The number of people unemployed for more than twelve months divided by the economically active population.  
 (c) Number of people reporting to the LFS that they are working part-time because they could not find a full-time job, as a percentage of LFS total employment. Rolling three-month measure.  
 (d) Number of net additional hours that the currently employed report that they would like to work, on average, per week calculated from LFS microdata. Data are non seasonally adjusted. Calculation based on Bell, D and Blanchflower, D (2013), 'How to measure underemployment?', *Peterson Institute for International Economics Working Paper No. 13-7*.  
 (e) Vacancies as a percentage of the workforce, calculated using rolling three-month measures. Excludes vacancies in agriculture, forestry and fishing. Figure for 2017 Q2 shows vacancies in the three months to June relative to the size of the labour force in the three months to May.  
 (f) Redundancies as a percentage of total LFS employees, calculated using rolling three-month measures.  
 (g) Measures for the Bank's Agents (manufacturing and services), the BCC (non-services and services) and CBI (manufacturing, financial services and business/consumer/professional services) are weighted together using employee job shares from Workforce Jobs. The BCC data are non seasonally adjusted. Agents data are last available observation for each quarter.  
 (h) The scores are on a scale of -5 to +5, with positive scores indicating greater recruitment difficulties in the most recent three months relative to normal. Last available observation for each quarter.  
 (i) Percentage of respondents reporting recruitment difficulties over the past three months.  
 (j) Balances of respondents expecting skilled or other labour to limit output/business over the next three months (in the manufacturing sector) or over the next twelve months (in the financial services and business/consumer/professional services sectors).

**Chart 3.5 Employment intentions point to stable growth**

Survey indicators of employment intentions<sup>(a)</sup>



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

- (a) Measures for the Bank's Agents (manufacturing and services), the BCC (non-services and services) and CBI (manufacturing, financial services, business/consumer/professional services and distributive trades) are weighted together using employee job shares from Workforce Jobs. The REC data cover the whole economy. The BCC data are non seasonally adjusted.  
 (b) Net percentage balance of companies expecting their workforce to increase over the next three months.  
 (c) Last available observation for each quarter. The scores refer to companies' employment intentions over the next six months.  
 (d) Quarterly average. Recruitment agencies' reports on the demand for staff placements compared with the previous month.

The unemployment rate is expected to remain broadly stable in coming months as employment growth moderates.

### Hours worked

In addition to employment, labour demand growth can also be met by increases in the number of hours people work. Average hours worked are expected to have been broadly stable in 2017 Q2, somewhat higher than a year ago (Chart 3.6).

The extent to which changes in average hours worked affect pay pressures will depend in part on how many hours those staff want to work. According to the Labour Force Survey (LFS), the net number of additional desired hours remains higher than prior to the financial crisis (Table 3.B). And the proportion of those working part-time who would prefer a full-time job is still some way above its pre-crisis level, despite falling in recent months as the proportion of the workforce in full-time jobs has increased (Chart 3.7). That could suggest that some scope remains for average hours to rise further before pay pressures return to normal. In practice, however, evidence suggests that people tend to be satisfied by smaller increases in hours than they previously reported wanting.<sup>(1)</sup>

The loss in real income as a result of the depreciation in sterling (Section 2) may also lead to some people wanting to work longer hours to make up that loss. As discussed in the box on pages 14–15, around 10% of respondents to the latest household survey carried out for the Bank by NMG Consulting in May reported that they would try to maintain their spending to some degree in the face of a fall in their real incomes by seeking more work. Perhaps consistent with that, average hours worked have picked up in recent quarters, relative to the number of hours people report they usually work (Chart 3.6), as the amount of leave taken has fallen.

Despite the possibility of some households wanting to work longer hours in response to the slowing in real income growth, average hours worked are projected to fall back gradually in coming quarters. That reflects the long-term structural effect of an ageing workforce as older workers typically want to work fewer hours.<sup>(2)</sup>

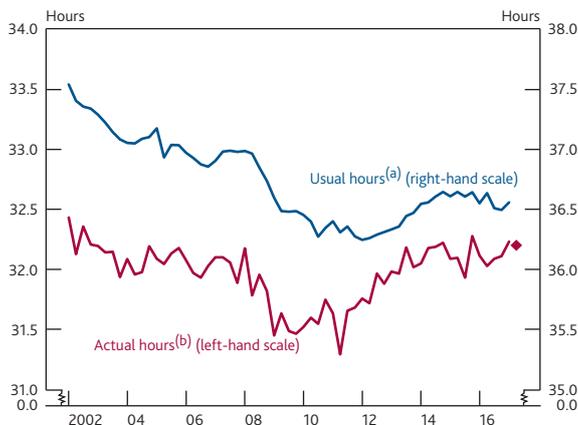
### Participation and population growth

Changes in the proportion of the population participating in the labour market — either working or looking for employment — will also affect labour supply and therefore labour market conditions. The participation rate is expected to have fallen slightly in 2017 Q2 (Chart 3.8). Participation is projected to remain broadly stable in the near term, reflecting two large but broadly offsetting factors. The rising average age of the population will tend to depress the aggregate

- (1) For more details, see Weale, M (2014), 'Slack and the labour market'; [www.bankofengland.co.uk/publications/Documents/speeches/2014/speech716.pdf](http://www.bankofengland.co.uk/publications/Documents/speeches/2014/speech716.pdf).  
 (2) For more details, see the box on pages 22–23 of the February 2016 Report; [www.bankofengland.co.uk/publications/Documents/inflationreport/2016/feb.pdf](http://www.bankofengland.co.uk/publications/Documents/inflationreport/2016/feb.pdf).

**Chart 3.6 Average hours worked are expected to have been broadly stable in 2017 Q2**

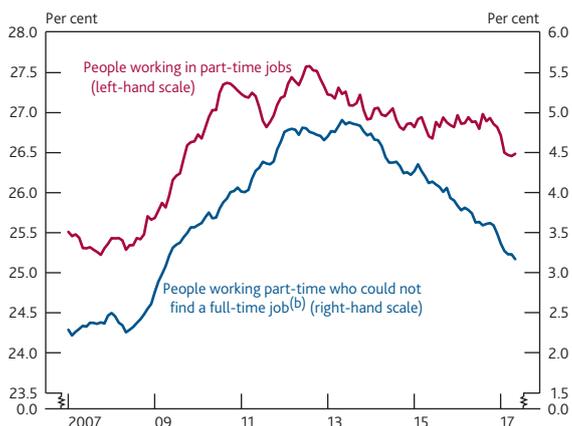
Average weekly hours worked: actual and usual



Sources: Labour Force Survey and Bank calculations.

(a) Usual hours exclude leave taken and other temporary variations in hours. Data are up to 2017 Q1.  
(b) Diamond shows Bank staff's projection for 2017 Q2, based on data to May.

**Chart 3.7 Involuntary part-time work remains elevated**  
People working part-time, as a proportion of total employment<sup>(a)</sup>

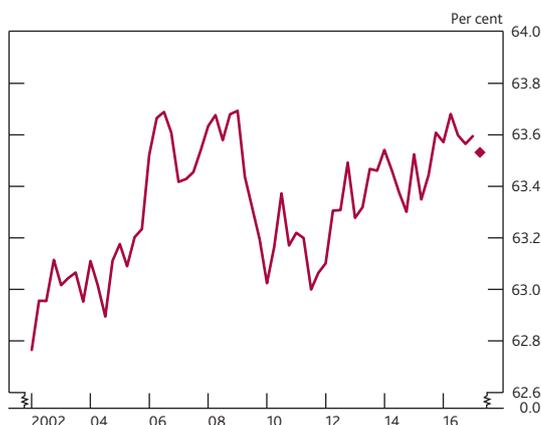


Sources: Labour Force Survey and Bank calculations.

(a) Percentage of LFS total employment. Rolling three-month measures.  
(b) As reported to the LFS.

**Chart 3.8 The participation rate has been broadly stable in recent quarters**

Labour force participation rate<sup>(a)</sup>



Sources: Labour Force Survey and Bank calculations.

(a) Percentage of 16+ population. The diamond shows Bank staff's projection for 2017 Q2, based on data to May.

participation rate. Offsetting this, the participation rate among older people has increased steadily in recent years and is expected to continue to rise. In addition, in the near term, it is also possible that weak real income growth could push up participation if some of those not currently looking for a job seek to supplement their household income by entering the labour market.

Beyond changes in the participation rate, labour supply will be determined in the long run mainly by population growth. In the MPC's projections, population growth is assumed to evolve in line with the ONS's latest projection, made in October 2015. Under that projection, population growth slows over the next three years, mainly as a result of lower net immigration.

In 2016, net inward migration was around 248,000, or 0.4% of the population. That is the lowest figure since the four quarters to 2014 Q1, although it remains a little above the ONS's 2015 projection. Much of the fall, relative to a year earlier, reflected a reduced net inflow from the rest of the European Union. Some respondents to a survey by the Bank's Agents in May reported reduced availability of non-UK EU labour over the past twelve months. That availability was expected to contract further in the coming year.

Although changes in net inward migration will lead to changes in labour supply, they will also affect domestic demand. In the past, shifts in the path for net migration do not appear to have had a significant direct impact on slack or wage growth.<sup>(1)</sup> The prospects for net migration remain particularly uncertain and will depend on a number of factors, including the United Kingdom's relative economic performance, the sterling exchange rate and government policy.

## 3.2 Productivity

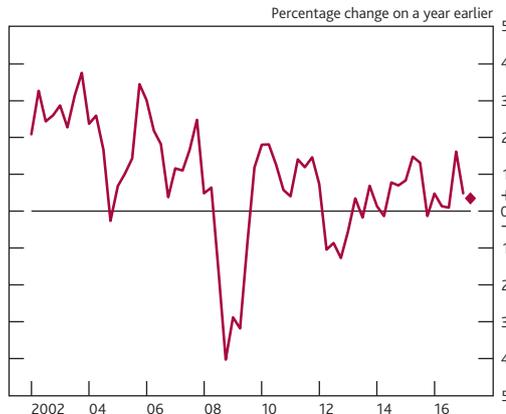
Four-quarter hourly productivity growth is expected to have slowed slightly further in 2017 Q2 to 0.4% (Chart 3.9), and is projected to remain broadly stable over the rest of the year. Further ahead, productivity growth is projected to pick up (Section 5). In particular, some of the recent weakness in productivity growth is likely in part to reflect a degree of spare capacity within firms, as output growth has slowed alongside resilient employment growth. As that spare capacity is absorbed, that is likely to push up productivity growth for a period.

Overall, however, productivity growth is likely to remain subdued. The low level of business investment (Section 2) continues to lead to relatively slow growth in the capital stock — the resources and equipment available to workers to produce output — which will weigh on productivity growth.

(1) For more details, see the box on pages 30–31 of the May 2015 Report; [www.bankofengland.co.uk/publications/Documents/inflationreport/2015/may.pdf](http://www.bankofengland.co.uk/publications/Documents/inflationreport/2015/may.pdf).

**Chart 3.9 Productivity growth appears to have slowed in 2017 H1**

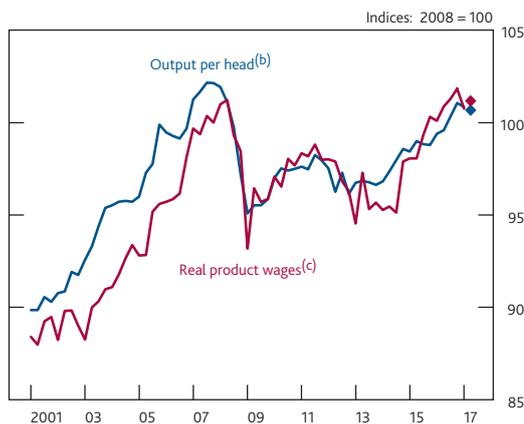
Hourly labour productivity<sup>(a)</sup>



(a) GDP is based on the backcast for the final estimate of GDP. The diamond shows Bank staff's projection for 2017 Q2.

**Chart 3.10 Real wages have grown broadly in line with productivity since 2008**

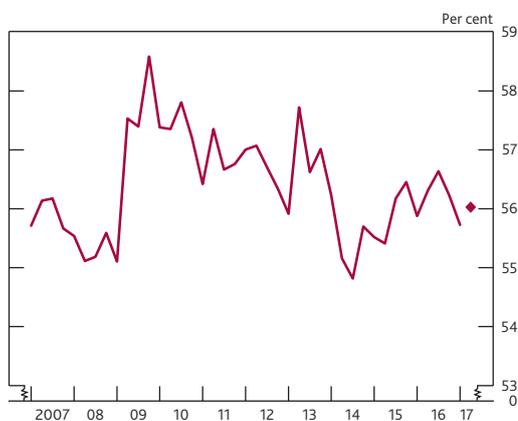
Private sector real product wages and labour productivity<sup>(a)</sup>



(a) The diamonds shows Bank staff's projections for 2017 Q2.  
 (b) Market sector output divided by private sector employment, based on the backcast for the final estimate of GDP. Employment data have been adjusted for reclassifications between public and private sector employment.  
 (c) Average weekly earnings in the private sector divided by the market sector output deflator.

**Chart 3.11 The labour share of income has fallen in recent quarters**

Private sector labour share of income<sup>(a)</sup>



(a) The labour share is based on total compensation of employees less general government compensation of employees, plus an estimate of self-employment income, divided by market sector output. Self-employment income is estimated 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. The diamond shows Bank staff's projection for 2017 Q2.

The outlook for productivity will also be sensitive to how companies anticipate and respond to the post-Brexit trading arrangements between the United Kingdom and its economic partners. The box on page 29 of the August 2016 *Report* set out some of the long-term effects of changes in trading arrangements on productivity growth. It remains difficult to know the nature, scale and speed of companies' adjustment, both in anticipation of changes in future trading arrangements and given the uncertainty around those arrangements. Those uncertainties are likely to lead to lower investment in capital equipment, research and skills than would otherwise be the case, and so could weigh on overall productivity growth, for a period at least (Section 5).

### 3.3 The outlook for wage growth

In the private sector, wage growth in the medium term will be determined to a large extent by the revenue available to companies to pay wages. This, in turn, will be determined by productivity growth and the prices companies can achieve for their output. Much of the weakness in wage growth in recent years appears to reflect the persistent weakness in productivity growth (Section 3.2). Cumulative growth of real product wages — which adjusts wage growth for changes in the prices of companies' output — has been broadly in line with that in productivity per head since the start of the crisis (Chart 3.10).

Despite weak productivity growth, wage growth picked up during 2014–16 as the labour market tightened and unemployment fell (Chart 3.3). That was associated with a recovery in the labour share of income (Chart 3.11). But wage growth and the labour share have both fallen back somewhat over the past year, even as unemployment has continued to fall.

While wage growth can be volatile, the recent renewed weakness suggests that factors other than productivity and tightness in the labour market may be influencing pay decisions. Uncertainty around the economic outlook may be one such factor. It is possible that some households' concerns about the economic outlook in coming quarters have left them reluctant to push for faster pay growth, even as unemployment has fallen and inflation has risen. For example, household wage expectations, according to the Bank of England/TNS quarterly survey, were broadly unchanged in 2017 Q1, relative to a year ago, despite a pickup in inflation expectations (Section 4). Uncertainty about the economic outlook may also affect companies' willingness to raise pay at a faster pace until they have more clarity about future demand. The Bank's Agents report that, for some companies, such uncertainty has been one factor influencing their pay decisions.

**Table 3.C** Monitoring the MPC's key judgements

Developments anticipated in May during 2017 Q2–Q4	Developments now anticipated during 2017 Q3–2018 Q1
<b>Unemployment</b>	<b>Revised down</b>
• Unemployment rate to remain at its current level of 4¾%.	• Unemployment rate to remain around its current rate of 4½%.
<b>Participation</b>	<b>Broadly unchanged</b>
• Participation rate to remain around its current level of 63½%.	• Participation rate to remain around its current level of 63½%.
<b>Average hours</b>	<b>Revised down</b>
• Average weekly hours worked to fall slightly to just below 32¼.	• Average weekly hours worked to fall to around 32.
<b>Productivity</b>	<b>Broadly unchanged</b>
• Quarterly hourly labour productivity growth to average just under ½%.	• Quarterly hourly labour productivity growth to average just under ½%.
<b>Earnings growth</b>	<b>Broadly unchanged</b>
• Four-quarter growth in AWE regular pay to be 2¼% in Q4.	• Four-quarter growth in AWE regular pay to be around 2¼% in 2017 H2.

Regular pay growth is projected to remain subdued over the rest of 2017 at around its current rate (Table 3.C). Consistent with that, most survey indicators of pay growth remain below past averages (Table 3.D). Further out, pay growth is projected to pick up, as any temporary factors currently weighing on wage growth dissipate, and the past tightening in the labour market starts to push up wage demands more widely. Overall, wage growth is likely to remain below its pre-crisis average rate, however, largely reflecting continued subdued productivity growth (Section 5).

**Table 3.D** Most survey indicators of pay growth remain subdued  
Indicators of pay growth

	Quarterly averages					2017 Q1	2017 Q2
	2002–07	2010–12	2013–14	2015	2016		
<b>Survey indicators of pay growth</b>							
CBI <sup>(a)</sup>	n.a.	1.6	1.8	2.3	2.2	2.7	2.4
Agents <sup>(b)</sup>	2.4	1.3	1.5	2.0	1.9	1.9	2.0
CIPD <sup>(c)</sup>	n.a.	1.2	1.8	1.8	1.4	1.0	n.a.
BCC <sup>(d)</sup>	29.1	19.9	22.4	25.6	23.4	23.0	14.9
<b>Survey indicators of pay growth for new recruits</b>							
REC <sup>(e)</sup>	56.7	52.4	59.0	61.9	57.1	58.8	58.9

Sources: Bank of England, BCC, CBI, CBI/PwC, Chartered Institute of Personnel and Development (CIPD), KPMG/REC/IHS Markit and Bank calculations.

- (a) Measures of expected pay for the year ahead. Produced by weighting together balances for manufacturing, distributive trades, business/consumer/professional services and financial services using employee job shares. Data only available since 2008.
- (b) Quarterly averages for manufacturing and services weighted together using employee job shares. The scores refer to companies' labour costs over the past three months compared with the same period a year earlier. Scores of -5 to 5 represent rapidly falling and rapidly rising costs respectively, with zero representing no change.
- (c) Pay increase intentions excluding bonuses over the coming year. Data only available since 2012.
- (d) Net percentage balance of companies currently facing pressures to raise prices due to pay settlements. Produced by weighting together survey indices for pay settlements for services and non-services using employee job shares.
- (e) Produced by weighting together survey indices for the pay of permanent and temporary new placements using employee job shares; quarterly averages. A reading above 50 indicates growth on the previous month and those below 50 indicate a decrease.

# 4 Costs and prices

Although CPI inflation has been volatile, it has risen over 2017 and was 2.6% in June. It is expected to remain around 2¾% in the near term, boosted by higher import prices as a result of the depreciation in sterling, before easing back towards the 2% target during 2018. Growth in firms' imported costs appears to have started moderating. Domestically generated inflation appears to have remained relatively subdued and inflation expectations remain consistent with the MPC's 2% target.

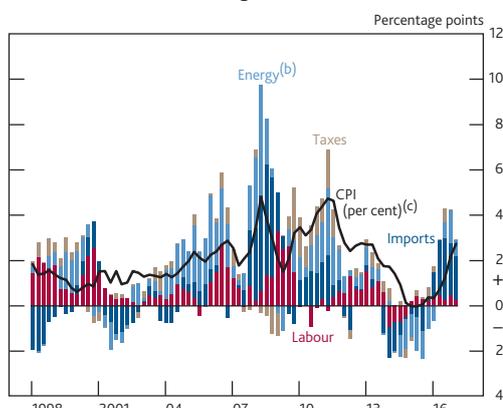
**Chart 4.1** CPI inflation has picked up since the start of the year

CPI inflation and Bank staff's near-term projection<sup>(a)</sup>



(a) The beige diamonds show Bank staff's central projection for CPI inflation in April, May and June 2017 at the time of the *May Inflation Report*. The red diamonds show the current staff projection for July, August and September 2017. The bands on each side of the diamonds show the root mean squared error of the projections for CPI inflation one, two and three months ahead made since 2004.

**Chart 4.2** Import prices have pushed up firms' costs  
CPI inflation and estimated contributions to four-quarter growth in unit costs for consumer goods and services<sup>(a)</sup>



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

(a) The underlying weights attached to each component are based on the *United Kingdom Input-Output Analytical Tables 2010*, adjusted to reflect the composition of CPI. Where applicable, the weights capture each factor's contribution to all stages of the domestic production process. 2017 Q2 figures for imports, labour and taxes are staff projections.  
(b) Includes imports, labour costs and tax associated with energy inputs.  
(c) Quarterly average of monthly data, seasonally adjusted by Bank staff.

## 4.1 Consumer price developments and the near-term outlook

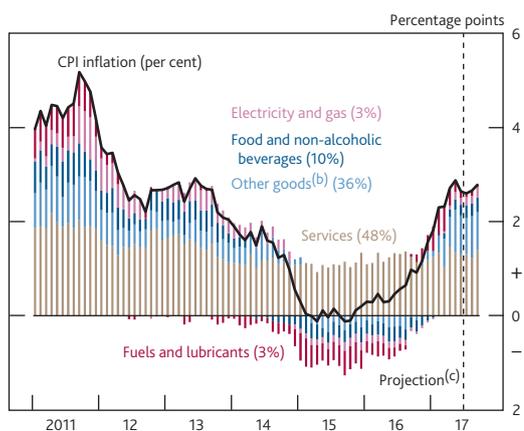
CPI inflation was 2.6% in June, having picked up from 2.3% in March. This outturn was in line with the projection at the time of the *May Report* (Chart 4.1), although inflation has been volatile in recent months. In particular, shifts in the timing of discounting have led to swings in clothing and footwear price inflation.

Sterling depreciated sharply following the EU referendum and has remained 15%–20% lower than its November 2015 peak since then. As a result, firms' imported costs have risen sharply since mid-2016 (Chart 4.2) leading to upward pressure on many retail prices (Section 4.2). The speed at which firms pass movements in sterling through to consumer prices varies across products. Fuel prices responded to the depreciation quite quickly and over recent months the effect of higher import prices has become more widespread across CPI components (Chart 4.3). Reflecting this, margins on consumer goods and services are estimated to have recovered somewhat, having been squeezed by rising imported costs in 2016 H2 (Chart 4.4).

As well as firms' external costs, the path for inflation will depend on developments in domestically generated inflation (DGI) (Section 4.3). DGI will reflect developments in domestic labour costs (Chart 4.2), as well as firms' margins. These can be influenced by companies' and households' inflation expectations.

CPI inflation is projected to remain around 2¾% in coming months (Chart 4.1). The boost from the 2016 pickup in fuel prices has started to drop out of the annual comparison, which will drag on inflation, while higher import prices continue to push it up. Inflation is expected to start to fall back towards the 2% target during 2018, primarily reflecting past increases in energy prices falling out of the annual comparison.

**Chart 4.3 Rising goods prices have pushed up inflation**  
Contributions to CPI inflation<sup>(a)</sup>



Sources: Bloomberg, Department for Business, Energy and Industrial Strategy, ONS and Bank calculations.

- (a) Contributions to annual CPI inflation. Figures in parentheses are CPI basket weights in 2017.  
 (b) Difference between CPI inflation and the other contributions identified in the chart.  
 (c) Bank staff projection. Fuels and lubricants estimates use Department for Business, Energy and Industrial Strategy petrol price data for July 2017 and are then based on the August 2017 Inflation Report sterling oil futures curve, shown in Chart 4.5.

**Chart 4.4 Firms' margins are estimated to have recovered somewhat**  
Estimated margins on consumer goods and services<sup>(a)</sup>



Sources: OBR, ONS and Bank calculations.

- (a) Calculated as differences in the ratio of the CPI, seasonally adjusted by Bank staff, and estimated costs of production and distribution for consumer goods and services relative to their 1998-2007 averages. Costs consist of labour, imports, energy and tax, weighted to reflect their intensity in CPI as shown in Chart 4.2. The diamond shows Bank staff's projection for 2017 Q2.

## 4.2 Imported cost pressures

The cost of imports is a key part of the cost of producing UK goods and services. Those import prices will reflect both the foreign currency export prices charged by firms selling to the United Kingdom and the sterling exchange rate. The depreciation in sterling has pushed up import prices since late 2015. The impact on CPI inflation will depend on the timing of and extent to which companies: absorb those higher import costs in their margins; can limit growth in other costs such as wages; or choose to raise their prices.

### Energy prices

As oil is highly tradable its price is set in global markets. The cost of oil makes up around a third of the cost of retail fuel and changes in oil prices tend to be passed through to consumer prices much more quickly than changes in other import prices. In sterling terms, oil prices have fallen by 10% since the *May Report* (Chart 4.5) mainly reflecting a fall in US dollar oil prices (Section 1). Despite this, sterling oil prices remain slightly higher than a year ago. Fuel prices are therefore expected to continue to make a small positive contribution to inflation in the near term (Chart 4.3), though less than projected in May. The oil futures curve, on which the MPC's forecasts are conditioned, slopes slightly upwards, which implies a gradual rise in petrol prices over the next few years.

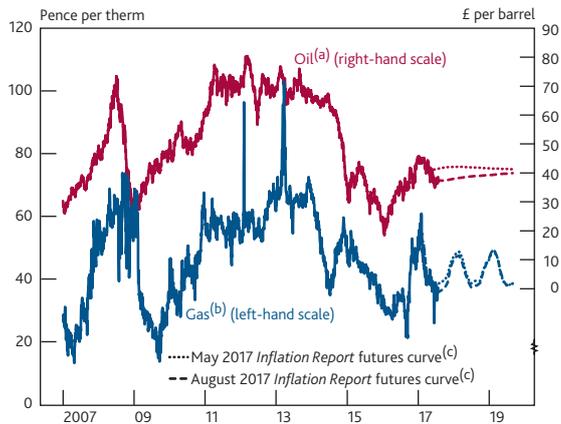
Sterling wholesale gas prices have also fallen but broadly in line with the futures curve on which the MPC's May forecasts were conditioned (Chart 4.5), and the futures curve has changed little since then. The major retail energy providers have announced increases in their electricity and gas prices in recent months, reflecting rising costs associated with structural changes, such as the increased use of renewable energy sources. Electricity and gas prices have pushed up inflation since March and their contribution is expected to increase slightly further in Q3 (Chart 4.3).

### Non-energy import prices

Sterling has depreciated by 18% since its November 2015 peak, including by 2% since the *May Report* (Section 1). That depreciation will push up a range of consumer prices over time. As explained in the box on pages 28-29 of the November 2015 *Report*, Bank staff have estimated that, on average, 60% of changes in the sterling value of world export prices tend to be reflected in UK import prices. That pass-through is usually completed within a year. Those changes in import prices are judged to affect CPI inflation over a longer period, broadly in line with the import share of CPI, which is around a third.

While import price data can be subject to large revisions, they currently suggest that the pass-through of the recent depreciation to import prices has, to date, been more limited

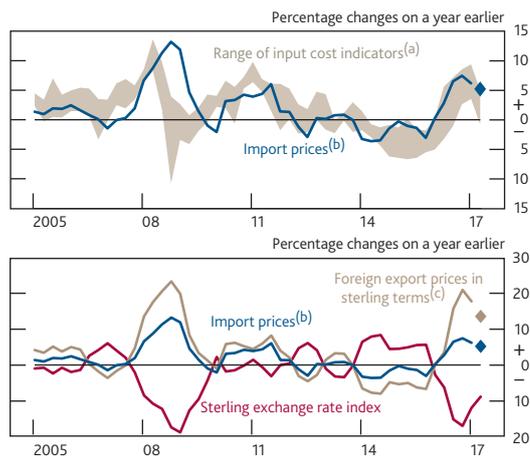
**Chart 4.5 Oil and gas prices have fallen**  
Sterling oil and wholesale gas prices



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

- (a) US dollar Brent forward prices for delivery in 10–25 days' time converted into sterling.  
 (b) One-day forward price of UK natural gas.  
 (c) Fifteen working day averages to 26 July and 3 May 2017 respectively.

**Chart 4.6 Import price inflation appears to be easing**  
Import prices, indicators of input cost pressures, foreign export prices and the sterling exchange rate



Sources: Bank of England, BCC, CBI, CEIC, Eurostat, IHS Markit, ONS, Thomson Reuters Datastream and Bank calculations.

- (a) Swathe includes: producer price index (PPI) imported materials prices; Markit/CIPS manufacturing input prices; BCC input cost pressures; CBI manufacturing expected average costs over the next three months (from the *Quarterly Industrial Trends Survey*); and Bank Agents' material costs scores. BCC and PPI data are non seasonally adjusted. Adjusted to match the mean and variance of import price inflation, as shown on the chart, since 2000.  
 (b) UK goods and services import deflator excluding fuels and the impact of MTIC fraud. Diamond shows Bank staff's projection for 2017 Q2.  
 (c) Domestic currency non-oil export prices for goods and services of 51 countries weighted according to their shares in UK imports divided by the sterling exchange rate index. The sample excludes major oil exporters. Diamond shows Bank staff's projection for 2017 Q2.

than on average in the past. Sterling non-energy import prices rose by 8% between 2015 Q4 and 2017 Q1 (Chart 4.6). This represents only around 40%, rather than 60%, of the change in sterling world export prices over that period.

Despite that more limited rise in import prices, CPI inflation appears to have picked up by around its average response to the depreciation in sterling. Inflation among import-intensive components of CPI — those components that are imported or have a high share of imported inputs, such as food — has picked up sharply and remains relatively elevated (Chart 4.7).

The pickup in CPI inflation could suggest that import prices have actually risen by more than suggested by the official data. The rise in import prices has, however, been in line with a range of indicators of imported input costs and those measures eased back in 2017 Q2 (Chart 4.6).

It is possible that the speed of pass-through to CPI inflation from import prices has been faster or that pass-through, in particular to domestically produced tradable goods and services prices, has been greater than on average. This would suggest that although imported input costs have squeezed domestic firms' margins, these have recovered more quickly than in the past. While exporters' margins will have been boosted by the depreciation in sterling, Bank staff estimate that margins on consumer goods and services were squeezed somewhat in 2016 H2 (Chart 4.4). The current import price data suggest margins recovered slightly in 2017 Q1, and probably recovered further in Q2.

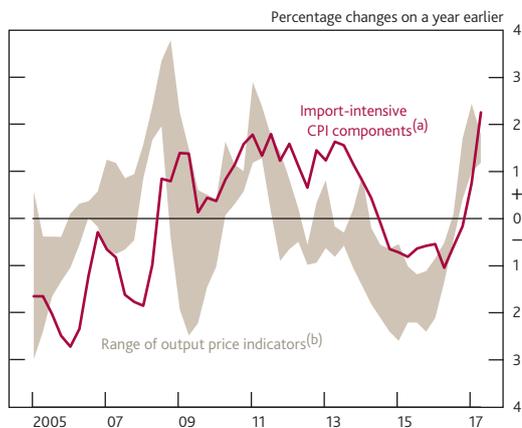
A range of indicators suggest that companies' output price inflation is likely to moderate somewhat in coming months (Chart 4.7). That is likely to reduce the extent of inflationary pressure along supply chains but will take time to be passed through to retail prices. As such, while CPI inflation is expected to start to ease back towards the 2% target during 2018, the pass-through of past imported cost pressures is expected to continue to boost inflation for some time (Section 5).

### 4.3 Underlying inflationary pressure

#### Domestically generated inflation

Alongside external costs, the rate of CPI inflation reflects domestically generated inflation (DGI). DGI, which reflects developments in domestic costs as well as domestic profit margins, will determine where CPI inflation settles once transitory effects, such as from the recent fall in sterling, have passed through. As discussed in the box on page 28 of the *May Report*, while it is not directly observable, there are a number of measures that are closely linked to the concept of DGI.

**Chart 4.7 Survey indicators suggest goods price pressures have started to moderate slightly**  
Import-intensive CPI inflation and survey indicators of output price inflation

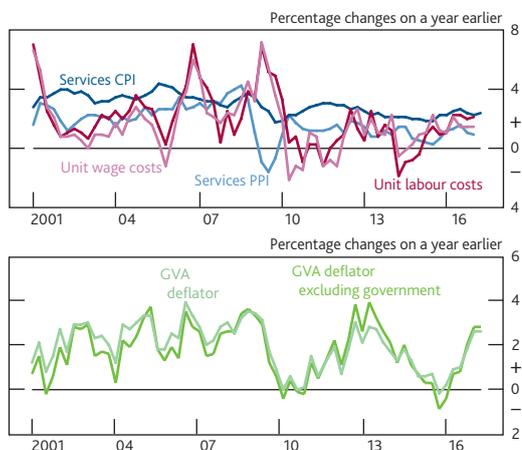


Sources: Bank of England, CBI, IHS Markit, ONS and Bank calculations.

- (a) The import-intensive CPI series weights together the 20 CPI components with the highest import intensities accounting for indirect imported inputs, excluding fuel and administered and regulated prices. CPI data have been adjusted by Bank staff for changes in the rate of VAT, although there is uncertainty around the precise impact of those changes. Quarterly average of monthly data.
- (b) Indicators included in swathe are: manufacturing output producer price index excluding food, beverages and tobacco; Markit/CIPS output prices for manufacturing; CBI Industrial Trends expected selling prices; and Bank Agents' finished imported goods cost scores. Adjusted to match the mean and variance of import-intensive inflation since 2001.

**Chart 4.8 Measures of DGI have on balance been broadly stable**

Measures of domestically generated inflation<sup>(a)</sup>



Sources: ONS and Bank calculations.

- (a) Unit labour costs are whole-economy labour costs (including self-employment income) divided by real GDP, based on the backcast of the final estimate of GDP. Unit wage costs are wages and salaries and self-employment income divided by real GDP, based on the backcast of the final estimate of GDP. Services CPI excludes airfares, package holidays, education and VAT; where Bank staff have adjusted for the rate of VAT there is uncertainty around the precise impact of those changes. All data are up to 2017 Q1, except services CPI which is up to 2017 Q2.

Measures of core inflation, which exclude volatile CPI components such as food and energy, are sometimes used as measures of DGI. Core inflation, however, can still be significantly affected by external cost pressures, as many goods and some services prices are sensitive to changes in import prices. Indeed, measures of core inflation have picked up since mid-2016, as the effect of the depreciation in sterling has been reflected across a range of goods prices. Even if particularly import-intensive CPI components are excluded, it is difficult to remove the impact of external cost pressures entirely.

Measures of inflation in the services sector are often also used as indicators of DGI, as most services are produced domestically. Two key measures used are wholesale services prices — as measured by the services producer price index (PPI) — and the price of consumer services excluding components that are more likely to be related to tradable prices or government policy, such as airfares and education. These measures of services price inflation have been relatively stable (Chart 4.8). However, while services prices are informative about trends in DGI, they exclude the domestically produced element of goods. More broadly, as with core CPI, services prices will also be affected by external cost pressures to some degree; for example, many service providers will use imported goods as an input. And PPI will also include the prices of services provided to exporters and importers.

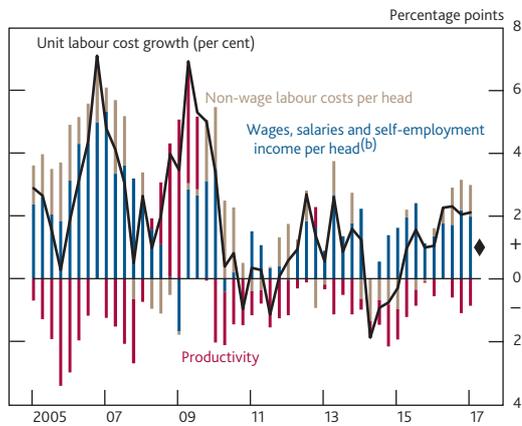
At face value, measures of the price of domestic production appear to capture the concept of DGI most closely. The GVA deflator is a measure of the price of domestic production, from which the government sector can be excluded to capture the price of private domestic production better. However, these deflator-based measures are also affected by import and export prices. Over the past year, rises in export prices relative to import prices have pushed up the GVA deflator. These deflator-based measures are, therefore, likely to overstate the extent of domestic inflationary pressure at present.

As the main domestic input into production, the cost of labour is a key determinant of DGI. The degree to which growth in labour costs per worker, such as wages and non-wage benefits, affect inflation will depend on how these costs evolve relative to growth in the output produced per worker — known as unit labour cost (ULC) growth. While ULC growth is less likely than other DGI indicators to be affected by external factors, it does not capture changes in firms' margins. Moreover, ULC growth can be quite volatile.

Four-quarter ULC growth remained below its historical average rate at around 2% in 2017 Q1, as the weakness in wage growth coincided with modest productivity growth (Chart 4.9). And four-quarter ULC growth is expected to have slowed sharply in Q2, reflecting a marked slowing in non-wage

### Chart 4.9 Unit labour cost growth is expected to have slowed temporarily in Q2

Decomposition of four-quarter whole-economy unit labour cost growth<sup>(a)</sup>



Sources: ONS and Bank calculations.

- (a) Whole-economy labour costs divided by real GDP, based on the backcast of the final estimate of GDP. The diamond shows Bank staff's projection for 2017 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.

### Table 4.A Monitoring the MPC's key judgements

Developments anticipated in May during 2017 Q2–Q4	Developments now anticipated during 2017 Q3–2018 Q1
<b>Household energy prices</b> • Electricity and gas price rises to contribute ¼ percentage point to CPI inflation in 2017 H2.	<b>Broadly unchanged</b> • Electricity and gas price rises to contribute slightly less than ¼ percentage point to CPI inflation.
<b>Import prices</b> • Non-fuel import prices to rise by 2¾% in the year to Q4. • Commodity prices to evolve in line with the conditioning assumptions.	<b>Revised down slightly</b> • Non-fuel import prices to rise by 2¾% in the year to 2018 Q1. • Oil prices fell by 10%. Commodity prices to evolve in line with the conditioning assumptions.
<b>Unit labour costs</b> • Four-quarter growth in whole-economy unit labour costs to fall to around ½% in Q3 before starting to recover from Q4.	<b>Broadly unchanged</b> • Four-quarter growth in whole-economy unit labour costs to fall to around ¾% in Q3 before recovering towards 1½%.
<b>Inflation expectations</b> • Indicators of medium-term inflation expectations to continue to be broadly consistent with the 2% target.	<b>Broadly unchanged</b> • Indicators of medium-term inflation expectations to continue to be broadly consistent with the 2% target.

labour cost growth. Non-wage labour costs had been boosted in April 2016 by a rise in employers' National Insurance contributions and these will have dropped out of the annual comparison in 2017 Q2. ULC growth is expected to pick back up as wage growth starts to rise (Section 3) and as employers' auto-enrolment pension contribution rates increase in 2018 Q2, raising non-wage labour costs.

In addition to labour costs, developments in firms' margins are a key determinant of DGI. On the one hand, evidence of a recent recovery in margins on consumer goods and services (Section 4.2 and **Chart 4.4**) could suggest that domestic inflationary pressure is increasing, as firms feel able to raise their prices. Moreover, margins tend to be cyclical, falling when spare capacity opens up and then rising as capacity pressures build, and so are likely to rise further (Section 5).<sup>(1)</sup> On the other hand, if the increase in margins has occurred in anticipation of further rises in import prices, then margins could fall back as that growth in imported costs comes through.

Overall, indicators of DGI suggest that domestic inflationary pressure is likely to have remained somewhat subdued in recent quarters (**Chart 4.8**). The rises in deflator-based measures of DGI have largely reflected the rise in export prices in response to the depreciation in sterling, rather than a marked strengthening in domestic prices. And while the slowing in ULC growth is expected to be temporary, it is expected to remain below rates consistent with inflation at target in the near term, before recovering further ahead (Section 5). There are, however, a range of views among MPC members about the relative importance of various measures of DGI.

### Inflation expectations

Inflation expectations can also affect the outlook for inflation, such as through wage and price-setting behaviour. The MPC monitors a range of indicators to assess whether inflation expectations remain consistent with its 2% target.

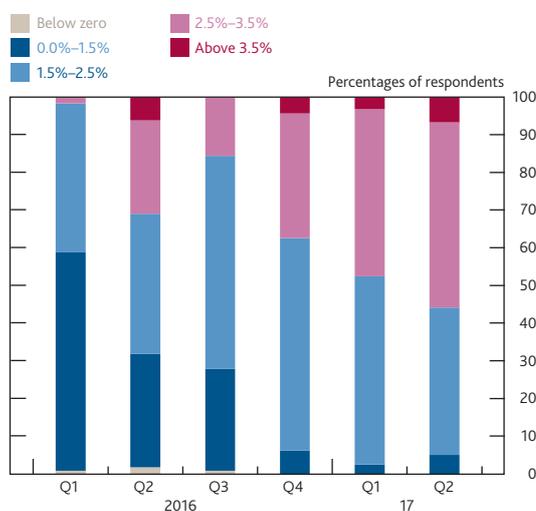
Movements in measures of companies' inflation expectations have been mixed since May. Expectations for CPI inflation in two years' time among respondents to the *Deloitte CFO Survey* rose slightly further in Q2 (**Chart 4.10**), with the median expectation rising from 2.4% in Q1 to 2.6%. In contrast, the CBI measure of respondents' expected inflation within their own sector fell back somewhat in Q2, following a sharp rise in Q1 (**Table 4.B**).

Most other indicators of inflation expectations have changed little since May (**Table 4.B**). Short-term and long-term household inflation expectations have, on average, remained

(1) For more details, see Macallan, C and Parker, M (2008), 'How do mark-ups vary with demand?', *Bank of England Quarterly Bulletin*, Vol. 48, No. 2, pages 167–73; [www.bankofengland.co.uk/publications/Documents/quarterlybulletin/qb080203.pdf](http://www.bankofengland.co.uk/publications/Documents/quarterlybulletin/qb080203.pdf).

### Chart 4.10 CFOs' inflation expectations have risen gradually in recent quarters

Distribution of large companies' inflation expectations two years ahead from the *Deloitte CFO Survey*<sup>(a)</sup>



Source: Deloitte.

(a) CFOs' expectations for CPI inflation in two years' time. Data are non seasonally adjusted.

### Table 4.B Indicators of inflation expectations<sup>(a)</sup>

Per cent

	2000 (or start of series) to 2007 averages <sup>(b)</sup>	Averages since 2008	2014	2015	2016		2017		
					H1	H2	Q1	Q2	Q3 <sup>(c)</sup>
<b>One year ahead inflation expectations</b>									
<b>Households<sup>(d)</sup></b>									
Bank/GfK/TNS <sup>(e)</sup>	2.4	3.0	2.7	2.0	1.9	2.5	2.9	2.8	n.a.
Barclays Basix	2.8	2.8	2.3	1.5	1.7	2.0	2.2	2.4	n.a.
YouGov/Citigroup (Nov. 2005)	2.5	2.4	2.0	1.3	1.5	2.1	2.6	2.6	2.5
<b>Companies (2008 Q2)<sup>(f)</sup></b>	n.a.	0.6	0.6	0.4	0.4	0.9	2.0	0.9	n.a.
<b>Financial markets (Oct. 2004)<sup>(g)</sup></b>	2.6	2.8	2.8	2.5	2.5	3.2	3.6	3.4	3.4
<b>Two to three year ahead expectations</b>									
<b>Households<sup>(d)</sup></b>									
Bank/GfK/TNS (2009 Q1) <sup>(e)</sup>	n.a.	2.7	2.7	2.3	2.2	2.4	2.7	2.8	n.a.
Barclays Basix	3.2	3.0	2.6	1.9	2.2	2.4	2.8	2.9	n.a.
<b>Professional forecasters (2006 Q2)<sup>(h)</sup></b>	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.0
<b>Financial markets (Oct. 2004)<sup>(i)</sup></b>	2.8	3.0	3.1	3.0	2.8	3.2	3.5	3.3	3.2
<b>Five to ten year ahead expectations</b>									
<b>Households<sup>(d)</sup></b>									
Bank/GfK/TNS (2009 Q1) <sup>(e)</sup>	n.a.	3.2	3.1	2.8	3.2	3.1	3.2	3.3	n.a.
Barclays Basix (2008 Q3)	n.a.	3.7	3.6	3.1	3.6	3.4	3.9	3.9	n.a.
YouGov/Citigroup (Nov. 2005)	3.5	3.2	2.9	2.7	2.7	2.7	3.1	3.0	3.1
<b>Financial markets (Oct. 2004)<sup>(i)</sup></b>	3.0	3.4	3.4	3.3	3.1	3.3	3.5	3.4	3.3
Memo: CPI inflation	1.6	2.4	1.5	0.0	0.4	1.0	2.1	2.7	n.a.

Sources: Bank of England, Barclays Capital, Bloomberg, CBI (all rights reserved), Citigroup, GfK, ONS, TNS, 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 to 26 July 2017. 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) In 2016 Q1, the survey provider changed from GfK to TNS.

(f) CBI data for the manufacturing, business/consumer services and distributive trade 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.

(g) Instantaneous RPI inflation one year ahead implied from swaps.

(h) Bank's survey of external forecasters, inflation rate three years ahead.

(i) Instantaneous RPI inflation three years ahead implied from swaps.

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

around past average levels and so appear to be consistent with CPI inflation returning towards the target. Similarly, financial market measures of inflation compensation suggest market participants' expectations have changed little since May at both short and long-term horizons, and long-run expectations remain close to past averages.

Overall, the MPC judges that inflation expectations remain well anchored, and that indicators of medium-term inflation expectations continue to be broadly consistent with the 2% target. The MPC will continue to monitor measures of inflation expectations closely.

# 5 Prospects for inflation

CPI inflation has remained above the 2% target as rises in import prices following the steep fall in the sterling exchange rate last year continue to pass through to consumer prices. That has weighed on households' real incomes and consumption, contributing to the slowdown in GDP growth in the first half of 2017. Over the forecast period, growth in real income and consumption is projected to remain subdued. The effect of that on overall GDP growth is offset to some extent by UK exports and investment, which are supported by strong growth in the rest of the world and the lower exchange rate. Overall, given a market-implied path for Bank Rate that rises by around ½ percentage point over the next three years, growth is projected to be modest and unemployment to stay close to its current rate. Import price pressures begin to fade in the second half of the forecast period, but are still keeping inflation above the 2% target at the end. On the market path for Bank Rate, the small degree of slack remaining in the economy is absorbed and domestic inflationary pressures are judged likely to increase over the forecast period.

CPI inflation was 2.6% in June, as projected three months ago, as higher import prices continued to feed through the supply chain. Wage growth has remained subdued. Following the strong outturns immediately after the EU referendum, UK GDP growth fell back in the first half of 2017. Growth is expected to remain at 0.3% in Q3 before picking up slightly at the end of the year. Over 2017 as a whole, growth is projected to be a little weaker than anticipated in May, reflecting a less marked pickup in business investment (Section 2).

In contrast, global growth has remained strong. In particular, euro-area activity indicators point to faster growth in the near term than projected in May. That strength has been reflected in financial asset prices. The euro has risen against both sterling and the US dollar over the past three months. Longer-term interest rates have risen in many advanced economies, as have implied paths for policy rates over shorter horizons.

In the United Kingdom, financial market prices now imply a rise in Bank Rate in 2018 Q3, compared with 2019 Q4 at the time of the *May Report*. The projections in this *Report* are conditioned on a path for Bank Rate nearly ¼ percentage point higher than that in the *May Report* (Table 5.A). The interest rates faced by households and companies also depend on the spreads banks charge over market interest rates. Since May, these spreads have fallen slightly but the effect of that is projected to be offset over the forecast period by the impact

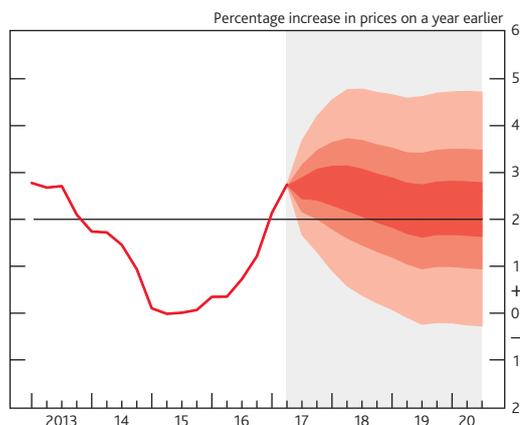
**Table 5.A** Conditioning path for Bank Rate implied by forward market interest rates<sup>(a)</sup>

Per cent	2017		2018				2019				2020		
	Q3 <sup>(b)</sup>	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3
August	0.2	0.3	0.4	0.4	0.5	0.5	0.5	0.6	0.6	0.7	0.7	0.7	0.8
May	0.2	0.2	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.5	0.5	0.5	

(a) The data are fifteen working day averages of one-day forward rates to 26 July 2017 and 3 May 2017 respectively. The curve is based on overnight index swap rates.

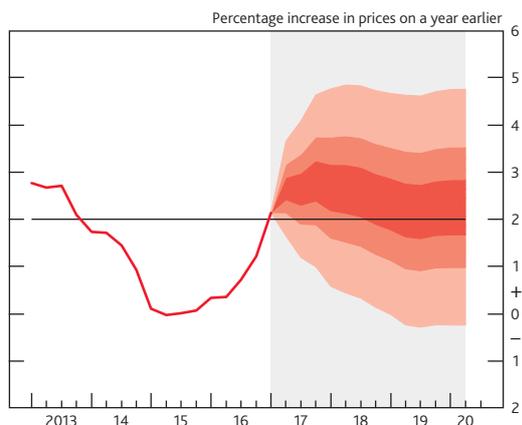
(b) August figure for 2017 Q3 is an average of realised overnight rates to 26 July 2017, and forward rates thereafter.

**Chart 5.1** CPI inflation projection based on market interest rate expectations, other policy measures as announced



Charts 5.1 and 5.2 depict the probability of various outcomes for CPI inflation in the future. They have been conditioned on the assumptions in Table 5.B footnote (b). If economic circumstances identical to today's were to prevail on 100 occasions, the MPC's best collective judgement is that inflation in any particular quarter would lie within the darkest central band on only 30 of those occasions. The fan charts are constructed so that outcomes of inflation are also expected to lie within each pair of the lighter red areas on 30 occasions. In any particular quarter of the forecast period, inflation is therefore expected to lie somewhere within the fans on 90 out of 100 occasions. And on the remaining 10 out of 100 occasions inflation can fall anywhere outside the red area of the fan chart. Over the forecast period, this has been depicted by the light grey background. 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 5.2** CPI inflation projection in May based on market interest rate expectations, other policy measures as announced



of the Financial Policy Committee's decision to raise the countercyclical capital buffer.<sup>(1)</sup>

The sterling ERI has fallen by 2% since May and is currently 18% below its late-2015 peak. The decline in sterling since late 2015 largely reflects financial market participants' judgements about the impact of Brexit on the United Kingdom. Those judgements depend on assumptions about the United Kingdom's trading relationships after Brexit and about the transition to those arrangements. As in previous *Reports*, the MPC's projections are conditioned on the average of a range of possible outcomes for the United Kingdom's trading relationship with the European Union. They also assume that households and companies base their decisions on the expectation of a smooth adjustment to those new trading arrangements.

The projections in this *Report* are very similar to those made three months ago (Table 5.B). Inflation begins the projection well above the 2% target. It is expected to remain around 2¾% until early next year (Chart 5.1), with some monthly volatility around that path, such that it is projected to peak at around 3% in October. That overshoot reflects upward pressure from the prices of tradable goods and services, which begins to ease in the second half of the forecast period (Key Judgement 1). Domestic inflationary pressures, and in particular wage growth, have largely remained subdued even as unemployment has fallen towards the MPC's central

**Table 5.B** Forecast summary<sup>(a)(b)</sup>

	Projections			
	2017	2018	2019	
GDP <sup>(c)</sup>	1.7 (1.9)	1.6 (1.7)	1.8 (1.8)	
Excluding backcast	1.6 (1.8)	1.6 (1.7)	1.8 (1.8)	
	2017 Q3	2018 Q3	2019 Q3	2020 Q3
CPI inflation <sup>(d)</sup>	2.7 (2.6)	2.6 (2.6)	2.2 (2.2)	2.2
LFS unemployment rate	4.4 (4.7)	4.5 (4.7)	4.5 (4.6)	4.4
Bank Rate <sup>(e)</sup>	0.2 (0.2)	0.5 (0.3)	0.6 (0.4)	0.8

(a) Modal market rate projections for GDP, CPI inflation and LFS unemployment. Figures in parentheses show the corresponding projections in the May 2017 *Inflation Report*. Projections were only available to 2020 Q2 in May.

(b) The August projections have been conditioned on the assumptions that the stock of purchased gilts remains at £435 billion and the stock of purchased corporate bonds remains at £10 billion throughout the forecast period, and on the Term Funding Scheme (TFS); all three of which are financed by the issuance of central bank reserves. The May projections were conditioned on the same asset purchase and TFS assumptions.

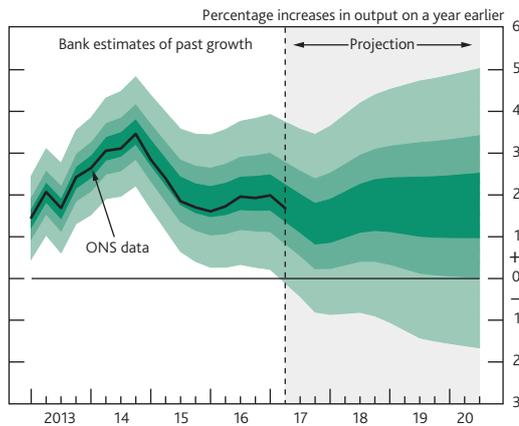
(c) Calendar-year growth in real GDP consistent with the modal projection for four-quarter growth in real GDP. The MPC's projections are based on its backcast for GDP.

(d) Four-quarter inflation rate.

(e) Per cent. The path for Bank Rate implied by forward market interest rates. The curves are based on overnight index swap rates.

(1) Unless otherwise stated, the projections shown in this section are conditioned on: Bank Rate following a path implied by market yields; the stock of purchased gilts remaining at £435 billion and the stock of purchased corporate bonds remaining at £10 billion throughout the forecast period and the Term Funding Scheme (TFS), all three of which are financed by the issuance of central bank reserves; the Recommendations and Directions 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 2017 March *Budget*; commodity prices following market paths; and the sterling exchange rate remaining broadly flat. The main assumptions are set out in a table at [www.bankofengland.co.uk/publications/Documents/inflationreport/2017/augca.pdf](http://www.bankofengland.co.uk/publications/Documents/inflationreport/2017/augca.pdf).

**Chart 5.3** GDP projection based on market interest rate expectations, other policy measures as announced



The fan chart depicts the probability of various outcomes for GDP growth. It has been conditioned on the assumptions in Table 5.B footnote (b). 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 outcomes are also expected to lie within each pair of the lighter green areas on 30 occasions. In any particular quarter of the forecast period, GDP growth is therefore expected to lie somewhere within the fan on 90 out of 100 occasions. And on the remaining 10 out of 100 occasions GDP growth can fall anywhere outside the green area of the fan chart. Over the forecast period, this has been depicted by the light grey background. See the box on page 39 of the November 2007 *Inflation Report* for a fuller description of the fan chart and what it represents.

estimate of its equilibrium rate. Although labour market slack has diminished, there is judged to be some spare capacity within companies, although estimates of this are uncertain. Over the forecast period, slack in the economy is absorbed gradually and wage and domestic price pressures increase. Those increasing pressures mean that CPI inflation stabilises towards the end of the forecast period, even as imported pressures are falling away (Key Judgement 2). Conditioned on market yields, inflation is projected to be a little above the target at the end of the forecast period, although the overshoot can entirely be accounted for by the impact of higher import prices. The effects on inflation of the slightly higher path for Bank Rate than in May are offset by greater upward pressure from the lower exchange rate, so the inflation profile is very similar to that three months ago (Chart 5.2).

The projections for wages and import prices imply continued weakness in households' real income growth over the forecast period. Consumption growth is therefore projected to remain subdued, weighing on GDP growth (Key Judgement 3). Acting against that to some extent, global growth remains strong and the lower exchange rate supports net trade. That helps to support UK investment by firms in the tradable sector over the forecast period, partly offsetting continued uncertainty around the effects of Brexit (Key Judgement 4). The growth projection therefore embodies a rotation towards net trade and investment and away from consumption. Overall, UK activity picks up from current rates to grow at a modest pace throughout the forecast period (Chart 5.3). Growth is slightly weaker than projected in May in the near term but similar further out.

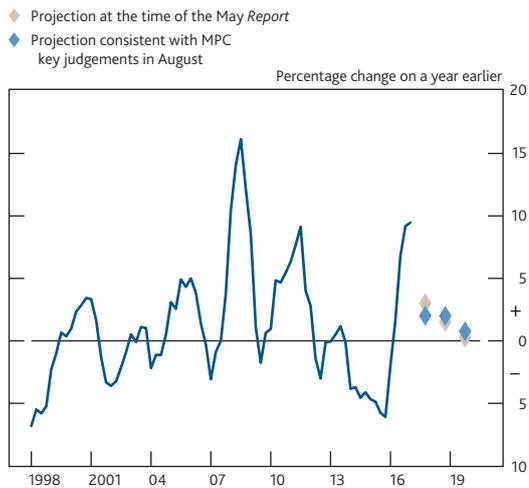
At its meeting ending on 2 August 2017, the MPC voted to maintain Bank Rate at 0.25%, to maintain the stock of sterling non-financial investment-grade corporate bond purchases, financed by the issuance of central bank reserves, at £10 billion, to maintain the stock of UK government bond purchases, financed by the issuance of central bank reserves, at £435 billion and to close the drawdown period for the Term Funding Scheme on 28 February 2018, as envisaged when the scheme was introduced. 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.<sup>(1)</sup> The remainder of this section sets out the MPC's projections, and the risks around them, in more detail.

## 5.1 The MPC's key judgements and risks

### Key Judgement 1: significant upward pressure on inflation from import prices eases only in the second half of the forecast period

The decline in the sterling exchange rate following the vote to leave the European Union continues to shape the MPC's

(1) The Minutes are available at [www.bankofengland.co.uk/publications/minutes/Documents/mpc/pdf/2017/aug.pdf](http://www.bankofengland.co.uk/publications/minutes/Documents/mpc/pdf/2017/aug.pdf).

**Chart 5.4** Import prices<sup>(a)</sup>

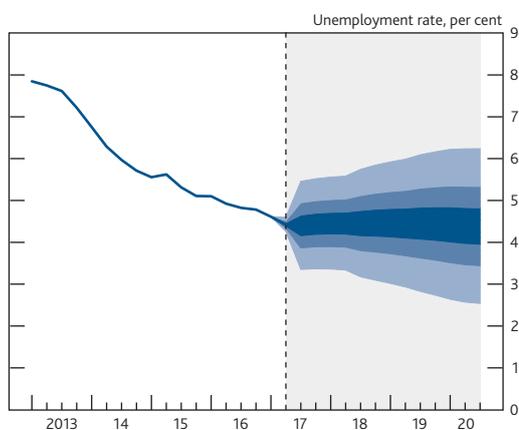
(a) Projections are four-quarter inflation rates in Q4. Excludes the impact of MTIC fraud.

inflation projection. The sterling ERI has fallen a further 2% since the *May Report*, to 18% below its late-2015 peak. That is feeding through to non-energy import prices, which have risen by around 8% over the past year or so (Section 4). That rise is smaller than initially expected, suggesting a degree of catch-up to come. Combined with the depreciation since May, that results in a projected further rise of 4% in aggregate import prices (**Chart 5.4**).

With higher import prices feeding through to consumer prices only gradually, consumer-facing companies' profit margins were squeezed by higher costs during 2016 (Section 4). Some of that squeeze has unwound in recent quarters as companies have begun to raise prices in response. Those price rises mean that the contribution of import prices to inflation is estimated to have picked up to around  $\frac{3}{4}$  percentage point. That contribution is expected to rise slightly further in coming quarters, before beginning to fall back. This is consistent with the MPC's assumption that import prices will pass through to CPI inflation slightly faster than in previous episodes. Even under that assumption, import prices are still adding around  $\frac{1}{4}$  percentage point to inflation at the end of the forecast period.

**Key Judgement 2: as the remaining slack in the economy is absorbed, domestic price pressures gradually increase**

Labour costs are a key component of domestic inflationary pressures. Wage growth has remained subdued in recent years even as unemployment has fallen (Section 3). That, in large part, reflects lacklustre productivity growth and a degree of slack in the labour market. As in previous *Reports*, the MPC expects underlying productivity growth to remain well below its pre-crisis average rate over the forecast period. That is partly because growth in the capital stock has slowed, following a period of weak investment, weighing on productivity growth. Productivity is also likely to be influenced by companies' expectations about, and preparations for, Brexit. For example, if trading arrangements are expected to be less open for a period, the resultant need for some companies to reorient their business models is likely to weigh a little on productivity growth. Overall, weak productivity growth is expected to reduce wage growth relative to rates seen prior to the financial crisis.

**Chart 5.5** Unemployment projection based on market interest rate expectations, other policy measures as announced

The fan chart depicts the probability of various outcomes for LFS unemployment. It has been conditioned on the assumptions in **Table 5.8** footnote (b). The coloured bands have the same interpretation as in **Chart 5.1**, 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 2017 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 4.5% in the three months to May, and is projected to be 4.4% in Q2 as a whole. 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.

Although subdued productivity growth and a margin of slack can account for much of the post-crisis trend in wage growth, most recently four-quarter wage growth has ticked down even as the unemployment rate has fallen to 4.5%, its assumed equilibrium. It is possible that this weakening simply reflects volatility in the data. It might also reflect some employers being less willing to commit to higher basic pay levels until they have more certainty over future demand for their output or the path of non-labour costs, including imports. Over the forecast period, whatever additional factors have held wage growth down beyond subdued productivity growth are

**Table 5.C** Indicative projections consistent with the MPC's modal projections<sup>(a)</sup>

	Average 1998– 2007	Projections		
		2017	2018	2019
Household consumption <sup>(b)</sup>	3½	1¾ (1¾)	¾ (1)	1¼ (1½)
Business investment <sup>(c)</sup>	2½	1 (1¾)	2¾ (3¼)	3½ (3)
Housing investment <sup>(d)</sup>	3¾	2¾ (2)	1¾ (3½)	1 (1½)
Exports <sup>(e)</sup>	4½	3½ (2¾)	2¼ (1¾)	1¼ (¾)
Imports <sup>(e)</sup>	6	3¼ (1¾)	½ (½)	0 (¼)
Real post-tax household income <sup>(f)</sup>	3	-½ (¼)	¾ (½)	1 (1¼)
Employment <sup>(g)</sup>	1	1 (½)	½ (¾)	¾ (¾)
Average weekly earnings <sup>(h)</sup>	4¼	2 (2)	3 (3½)	3¼ (3¾)

(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 2017 *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.

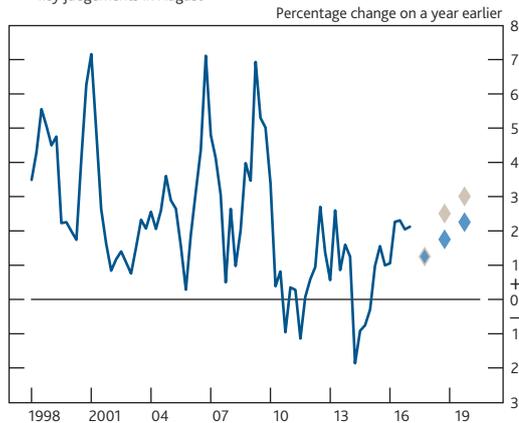
(f) Total available household resources deflated by the consumer expenditure deflator.

(g) Four-quarter growth rate in Q4.

(h) Four-quarter growth in Q4 in whole-economy total pay.

**Chart 5.6** Unit labour costs<sup>(a)</sup>

- ◆ Projection at the time of the May Report
- ◆ Projection consistent with MPC key judgements in August



Sources: ONS and Bank calculations.

(a) Projections are four-quarter growth rates 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.

assumed to dissipate to an extent. With the unemployment rate remaining close to 4.5% (Chart 5.5), wage growth therefore picks up (Table 5.C). That is reflected in a recovery in unit labour cost growth (Chart 5.6), which adjusts wages, plus other employment costs such as pension contributions, for productivity.

Although unemployment points to little slack, the period of sluggish GDP growth in the first half of 2017 suggests a continuing degree of spare capacity in the economy. With continued weakness in underlying productivity growth, the modest pace of GDP growth over the forecast period is sufficient to absorb that margin of slack. That would be consistent with a modest, cyclical, recovery in consumer sector companies' profit margins over the forecast period.

Overall, domestic inflationary pressures increase gradually over the forecast period as in May. Within that, however, the projections for wage and unit labour cost growth are lower than those in the MPC's May forecast. The impact of lower unit cost growth on inflation is offset by a slightly larger rebuild in profit margins for consumer sector firms. In May, the projections incorporated a relatively large rise in the labour share — households' labour income as a proportion of UK income — as real wages were assumed to rise significantly faster than productivity. The Committee has reassessed that judgement and reduced the extent of that rise. The counterpart to this is a slightly higher path for the profit share.

The paths for slack and domestic inflationary pressures mean that, as in May, there is a risk that CPI inflation remains somewhat above the target even once the boost from import prices has dissipated. That could come about if the period of above-target inflation feeds through to higher inflation expectations and, in turn, wage and price-setting behaviour. To date, medium-term measures of inflation expectations have remained well anchored. In the other direction, there is a risk that domestic pressures do not increase as much as expected. That could come about if the factors that have restrained wage growth recently turn out to be more persistent. Additionally, consumer sector companies may not expand profit margins as much as incorporated in the central projection. The Committee will monitor both these risks closely over the coming quarters.

### Key Judgement 3: consumption grows at a subdued pace, broadly in line with households' real incomes

Subdued wage growth together with the impact of the lower pound mean that real wages have fallen over the past year. That has started to feed through to households' spending decisions, with quarterly consumption growth slowing to 0.4% in 2017 Q1 and signs of further weakness in the housing market.

**Table 5.D MPC key judgements<sup>(a)(b)</sup>**

**Key Judgement 1: significant upward pressure on inflation from import prices eases only in the second half of the forecast period**

	Average 1998– 2007	Projections		
		2017	2018	2019
UK import prices <sup>(c)</sup>	¼	2 (3)	2 (1½)	¾ (¼)
Dollar oil prices <sup>(d)</sup>	39	49 (54)	51 (53)	53 (53)

**Key Judgement 2: as the remaining slack in the economy is absorbed, domestic price pressures gradually increase**

	Average 1998– 2007	Projections		
		2017	2018	2019
Productivity <sup>(e)</sup>	2¼	½ (¾)	1½ (1¾)	1½ (1½)
Participation rate <sup>(f)</sup>	63	63½ (63½)	63½ (63½)	63¾ (63½)
Average hours <sup>(g)</sup>	32¼	32 (32¼)	32 (32)	31¾ (32)
Unit labour costs <sup>(h)</sup>	3	1¼ (1¼)	1¾ (2½)	2¼ (3)

**Key Judgement 3: consumption grows at a subdued pace, broadly in line with households' real incomes**

	Average 1998– 2007	Projections		
		2017	2018	2019
Credit spreads <sup>(i)</sup>	¾ <sup>(j)</sup>	1¾ (1¾)	1¾ (1¾)	1¾ (1¾)
Household saving ratio <sup>(k)</sup>	8	3 (3¾)	3 (3½)	2¾ (3¼)

**Key Judgement 4: global growth remains strong, supporting UK net trade and investment in the face of continued uncertainty around Brexit**

	Average 1998– 2007	Projections		
		2017	2018	2019
World GDP (UK-weighted) <sup>(l)</sup>	3	2½ (2½)	2½ (2½)	2½ (2½)
World GDP (PPP-weighted) <sup>(m)</sup>	4	3½ (3½)	3½ (3¾)	3½ (3½)
Euro-area GDP <sup>(n)</sup>	2¼	2¼ (2)	2 (2)	1¾ (1¾)
US GDP <sup>(o)</sup>	3	2 (2¼)	2 (2½)	2¼ (2)
Business investment to GDP ratio <sup>(p)</sup>	9½	9¼ (9¼)	9½ (9½)	9½ (9½)

Sources: Bank of America Merrill Lynch Global Research (used with permission), Bank of England, BDR Continental *SME Finance Monitor*, Bloomberg, British Household Panel Survey, Department for Business, Energy and Industrial Strategy, 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 2017 *Inflation Report*.
- (c) Four-quarter inflation rate in Q4.
- (d) Average level in Q4. Dollars per barrel. Projection based on monthly Brent futures prices.
- (e) GDP per hour worked. GDP at market prices is based on the mode of the MPC's backcast.
- (f) Level in Q4. Percentage of the 16+ population.
- (g) Level in Q4. Average weekly hours worked, in main job and second job.
- (h) 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.
- (i) 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.
- (j) 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.
- (k) Calendar-year average. Percentage of total available household resources.
- (l) Chained-volume measure. Constructed using real GDP growth rates of 180 countries weighted according to their shares in UK exports.
- (m) Chained-volume measure. Constructed using real GDP growth rates of 181 countries weighted according to their shares in world GDP using the IMF's purchasing power parity (PPP) weights.
- (n) Chained-volume measure.
- (o) Chained-volume measure.
- (p) Calendar-year average. Chained-volume business investment as a percentage of GDP.

With a moderate recovery in wage growth and inflation falling back, the MPC projects real wage growth to pick up over the forecast period. It nevertheless remains subdued.

Correspondingly, household consumption grows at less than ¼% per quarter during the first half of the forecast period and picks up only a little later on (Table 5.C). The profile further out is a little lower than in May, reflecting the weaker projection for wage growth and the effects on real income of the further fall in the exchange rate, together with the slightly higher yield curve (Key Judgements 1 and 2). The saving ratio is projected to be broadly flat (Table 5.D), once volatility stemming from unusually large tax payments (on forestalled dividend income) in 2017 Q1 passes (Section 2).<sup>(1)</sup> In the central projection, consumer credit growth slows a little next year from current high rates.

It is possible that there could be a little more momentum in consumption in the near term than assumed. Despite a marked fall in June, consumer confidence is close to its long-run average rate and retail sales rose in Q2, following a decline in Q1. Households could increase spending at a faster rate than income for a while, by reducing the amount saved or by borrowing more than assumed. Over time, however, households will need to adjust spending towards the lower level of real income consistent with the decline in the exchange rate and the factors that underlie that decline.

It is also possible that consumption could adjust more sharply and the saving ratio could rise. Over the past three months, the housing market has weakened further, with quarterly house price inflation now around zero and transactions remaining low (see the box on pages 17–18). That could suggest that households have become more pessimistic about their wage growth or job prospects, which would also be expected to weigh on their consumption decisions. Over the forecast period, house price inflation picks up gradually (Table 5.E), but the level of house prices remains a little lower than projected three months ago. The weaker outlook for the housing market is likely, over time, to feed through to slower growth in housing investment (Table 5.C), after some support in the near term from the recent strength in housing starts.

Given these judgements, household consumption is projected to continue to provide less support to growth throughout the forecast period than in the past couple of years. The overall growth forecast therefore depends on how much demand rotates towards net trade and business investment.

#### **Key Judgement 4: global growth remains strong, supporting UK net trade and investment in the face of continued uncertainty around Brexit**

Since the beginning of 2017, the MPC has revised up its projection for global growth following indications of greater momentum in the advanced economies. Data since May have

(1) As set out in a box on pages 16–17 of the May 2017 *Report*, the 2017 *Blue Book* will contain significant upward revisions to the level of the saving ratio.

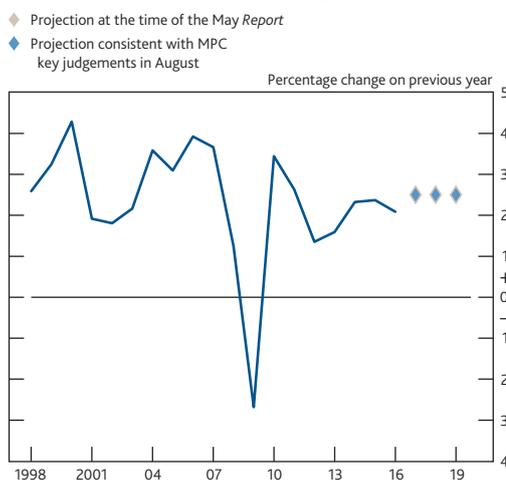
### Table 5.E Monitoring risks to the Committee's key judgements

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 assess 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 2017 Q3 to 2018 Q1 if judgements evolve as expected
<b>1: significant upward pressure on inflation from import prices eases only in the second half of the forecast period</b>	<ul style="list-style-type: none"> <li>• Non-fuel import prices to rise by 2¾% in the year to 2018 Q1.</li> <li>• Electricity and gas price rises to contribute slightly less than ¼ percentage point to CPI inflation.</li> <li>• Indicators of medium-term inflation expectations to continue to be broadly consistent with the 2% target.</li> <li>• Commodity prices and sterling ERI to evolve in line with the conditioning assumptions set out in <a href="http://www.bankofengland.co.uk/publications/Documents/inflationreport/2017/augca.pdf">www.bankofengland.co.uk/publications/Documents/inflationreport/2017/augca.pdf</a>.</li> </ul>
<b>2: as the remaining slack in the economy is absorbed, domestic price pressures gradually increase</b>	<ul style="list-style-type: none"> <li>• Unemployment rate to remain around its current level of 4½%.</li> <li>• Participation rate to remain around its current level of 63½%.</li> <li>• Average weekly hours worked to fall to around 32.</li> <li>• Quarterly hourly labour productivity growth to average just under ½%.</li> <li>• Four-quarter growth in AWE regular pay to be around 2¼% in 2017 H2.</li> <li>• Four-quarter growth in whole-economy unit labour costs to fall to around ¾% in Q3 before recovering towards 1½%.</li> </ul>
<b>3: consumption grows at a subdued pace, broadly in line with households' real incomes</b>	<ul style="list-style-type: none"> <li>• Real post-tax household income to be broadly flat.</li> <li>• Quarterly consumption growth to average ¼%.</li> <li>• Credit spreads to be broadly flat.</li> <li>• Mortgage approvals for house purchase to average around 66,000 per month.</li> <li>• The average of the Halifax/Markit and Nationwide house price indices to increase by a little less than ½% per quarter, on average.</li> <li>• Quarterly housing investment growth to average 1%.</li> </ul>
<b>4: global growth remains strong, supporting UK net trade and investment in the face of continued uncertainty around Brexit</b>	<ul style="list-style-type: none"> <li>• Quarterly euro-area growth to average a little above ½%.</li> <li>• Annual euro-area HICP inflation to fall back to around 1%.</li> <li>• Quarterly US GDP growth to average ½%.</li> <li>• Annual US PCE inflation to remain below 2%.</li> <li>• Indicators of activity consistent with four-quarter PPP-weighted emerging market economy growth of around 4¾%; within that, GDP growth in China to average around 6¾%.</li> <li>• Net trade to provide a small boost to quarterly UK GDP growth.</li> <li>• The UK current account deficit to narrow to around 3% of GDP.</li> <li>• Quarterly growth in UK business investment to average ½%.</li> </ul>

**Chart 5.7** World GDP (UK-weighted)<sup>(a)</sup>



Sources: IMF *World Economic Outlook* and Bank calculations.

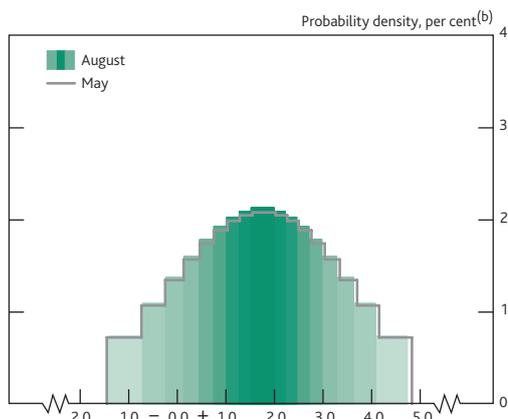
(a) Calendar-year growth rates. Chained-volume measure. Constructed using real GDP growth rates of 180 countries weighted according to their shares in UK exports.

provided little further news on global growth (Section 1). In the euro area, activity indicators point to faster growth in the near term than projected in May (Table 5.D). Acting in the other direction, the projection for US growth is slightly weaker. That reflects a smaller expected boost from fiscal policy than previously assumed.

In the emerging economies, the outlook for growth in China has been revised up a little following continued strong outturns. Growth is nonetheless expected to slow a little over the next three years towards 6%. That projection remains consistent with rapid credit growth, and significant risks to financial stability remain.

Global activity is projected to expand at around 3½% per year based on PPP weights (Table 5.D). Based on UK trade shares, which are skewed more heavily towards the advanced economies, growth is 2½% (Chart 5.7). Both projections

**Chart 5.8** Projected probabilities of GDP growth in 2019 Q3 (central 90% of the distribution)<sup>(a)</sup>



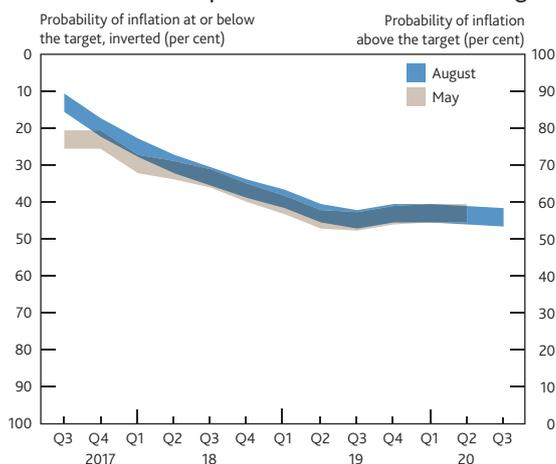
- (a) Chart 5.8 represents the cross-section of the GDP growth fan chart in 2019 Q3 for the market interest rate projection. The grey outline represents the corresponding cross-section of the May 2017 *Inflation Report* fan chart for the market interest rate projection. The projections have been conditioned on the assumptions in Table 5.B footnote (b). The coloured bands in Chart 5.8 have a similar interpretation to those on the fan charts. Like the fan charts, they portray the central 90% of the probability distribution.
- (b) Average probability within each band; the figures on the y-axis indicate the probability of growth being within  $\pm 0.05$  percentage points of any given growth rate, specified to one decimal place.

**Table 5.F** Calendar-year GDP growth rates of the modal, median and mean paths<sup>(a)</sup>

	Mode	Median	Mean
2017 <sup>(b)</sup>	1.7 (1.9)	1.7 (1.9)	1.7 (1.9)
2018	1.6 (1.7)	1.6 (1.7)	1.6 (1.7)
2019	1.8 (1.8)	1.7 (1.7)	1.7 (1.7)

- (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 figures in parentheses show the corresponding projections in the May 2017 *Inflation Report*. The projections have been conditioned on the assumptions in Table 5.B footnote (b).
- (b) The anticipated revisions to recent estimates of quarterly GDP growth have implications for calendar-year growth in 2017. Without the anticipated revisions to past GDP growth, the modal path of the Committee's August projections would imply calendar-year growth of 1.6% in 2017 rather than 1.7%.

**Chart 5.9** Inflation probabilities relative to the target



The August and May swathes in this chart are derived from the same distributions as Charts 5.1 and 5.2 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.

**Table 5.G** Q4 CPI inflation

	Mode	Median	Mean
2017 Q4	2.8 (2.8)	2.8 (2.8)	2.8 (2.8)
2018 Q4	2.5 (2.4)	2.5 (2.4)	2.5 (2.4)
2019 Q4	2.2 (2.2)	2.2 (2.2)	2.2 (2.2)

The table shows projections for Q4 four-quarter CPI inflation. The figures in parentheses show the corresponding projections in the May 2017 *Inflation Report*. The projections have been conditioned on the assumptions in Table 5.B footnote (b).

imply faster growth over the forecast period than the average of the past five years, but the risks to those projections remain skewed to the downside.

The world outlook is therefore supportive for UK exporters. Many are also benefiting from the lower level of the sterling exchange rate, which increases the profitability of exporting. The projection incorporates some effect from the prospect of Brexit weighing on exports as companies here and abroad begin to adjust trading relationships before the United Kingdom leaves the European Union. That also weighs on import flows, which are further dampened by the higher cost of imports. Overall, net trade supports growth over the forecast period.

The stronger global outlook, together with increased incentives for exporters to expand or renew export capacity to take advantage of the lower pound, also supports UK investment over the forecast period. One feature of growth over this year has been a recovery in investment spending in the United States and euro area. That has been seen to a lesser degree in UK business investment data and intentions surveys. There is evidence that global factors have played an important role in UK investment in the past and the world forecast implies that they are likely to support investment here for much of the forecast period too.

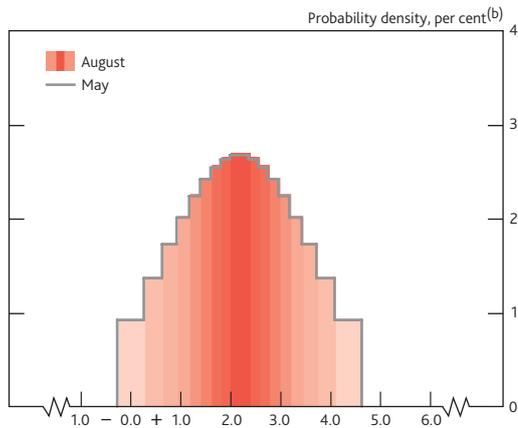
Investment decisions also depend on domestic influences, which are, on balance, judged to pull down investment growth over the forecast period. At face value, conditions for investment are supportive at the moment — the return on capital is high, the cost of capital is low and spare capacity is limited. But the anticipation of Brexit and related uncertainties are likely to weigh on companies' investment plans, even assuming that those plans are based on the expectation of a smooth transition to any new trading arrangements. So investment grows at a solid pace over the forecast period (Table 5.C), but it is not as strong as would have been expected given global and financial conditions alone. Investment is a little weaker than in the May Report in the near term, consistent with the tick down in some survey indicators, but much of that weakness is unwound over the forecast period.

Together, the outlook for net trade and investment act to support GDP growth during the period of subdued consumption growth. Even so, UK activity only grows at a modest pace over the forecast period.

## 5.2 The projections for demand, unemployment and inflation

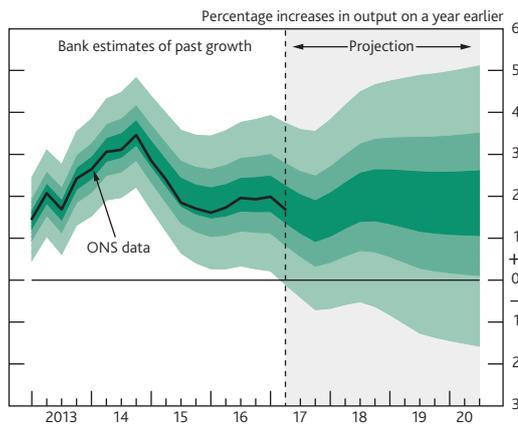
With recent outturns pointing to sluggish activity, the MPC projects four-quarter growth to slow further in the near term, a weaker path than in May. That does not alter the

**Chart 5.10** Projected probabilities of CPI inflation in 2019 Q3 (central 90% of the distribution)<sup>(a)</sup>



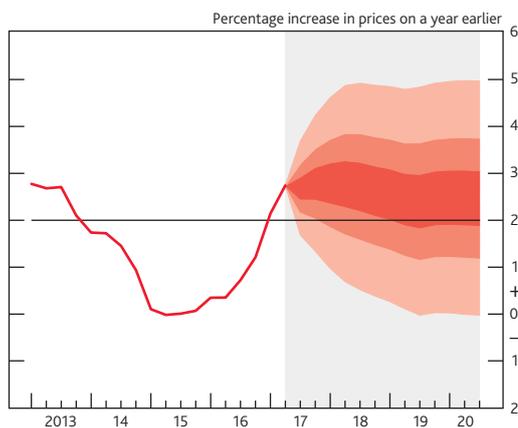
- (a) Chart 5.10 represents the cross-section of the CPI inflation fan chart in 2019 Q3 for the market interest rate projection. The grey outline represents the corresponding cross-section of the May 2017 *Inflation Report* fan chart for the market interest rate projection. The projections have been conditioned on the assumptions in Table 5.B footnote (b). The coloured bands in Chart 5.10 have a similar interpretation to those on the fan charts. Like the fan charts, they portray the central 90% of the probability distribution.
- (b) Average probability within each band; the figures on the y-axis indicate the probability of inflation being within  $\pm 0.05$  percentage points of any given inflation rate, specified to one decimal place.

**Chart 5.11** GDP projection based on constant nominal interest rates at 0.25%, other policy measures as announced



See footnote to Chart 5.3.

**Chart 5.12** CPI inflation projection based on constant nominal interest rates at 0.25%, other policy measures as announced



See footnote to Chart 5.1.

Committee's view on growth in the medium term. Based on the judgements above and the risks around them, and under the path for Bank Rate based on market yields and an unchanged stock of purchased assets, the MPC projects four-quarter growth to pick up over 2018, settling at around 1¾% thereafter, as in the May projection (Chart 5.8).

Within that, consumption growth remains subdued as households continue to adjust to a period of weak real income growth. But with strong global growth, support comes from net trade and a pickup in business investment growth. That outlook is consistent with expectations, on the part of households and businesses, of a smooth transition to post-Brexit trading arrangements. The risks to the projection remain skewed to the downside further out (Table 5.F), stemming from the global outlook. Although UK growth remains modest, it is close to or a little above trend, such that a small output gap at the start of the forecast closes by the end.

Overall, CPI inflation is projected to remain around its current rate for the next few quarters before gradually falling back. Conditional on the market path for Bank Rate, inflation is judged more likely to remain above the 2% target than fall below it throughout the forecast period (Chart 5.9), reflecting continued gradual pass-through of higher import prices. The ¼ percentage point overshoot of the target at the end of the forecast period is entirely accounted for by the effect of higher import prices. That said, domestic pressures are increasing at that point as the degree of spare capacity closes. The profile, which is conditioned on a higher path for Bank Rate and a lower exchange rate, is very similar to that in the *May Report* (Table 5.G). The risks around the central projection for inflation remain balanced (Chart 5.10).

Charts 5.11 and 5.12 show the MPC's projections under the alternative constant Bank Rate assumption, and an unchanged stock of purchased assets. That assumption is that Bank Rate remains at 0.25% throughout the three years of the forecast period, before rising towards the market path over the subsequent three years. Under that path, GDP growth is a little stronger and inflation stabilises at a slightly higher rate.

## Other forecasters' expectations

This box reports the results of the Bank's most recent survey of external forecasters, carried out in July.<sup>(1)</sup> As in May, respondents expected four-quarter GDP growth to slow over the coming year, before picking up to just under 2% three years ahead (Table 1). Forecasters were, however, on average attaching less weight to higher growth in coming years than they were three months earlier. At the two-year horizon, the average weight on growth of 2% or more declined from around a third to just under a quarter (Chart A).

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

	2018 Q3	2019 Q3	2020 Q3
CPI inflation <sup>(b)</sup>	2.6	2.2	2.0
GDP growth <sup>(c)</sup>	1.5	1.6	1.8
LFS unemployment rate	4.9	5.0	5.2
Bank Rate (per cent)	0.4	0.7	1.0
Stock of purchased gilts (£ billions) <sup>(d)</sup>	439	439	440
Stock of purchased corporate bonds (£ billions) <sup>(d)</sup>	11	11	11
Sterling ERI	76.8	77.3	77.5

Source: Projections of outside forecasters as of 21 July 2017.

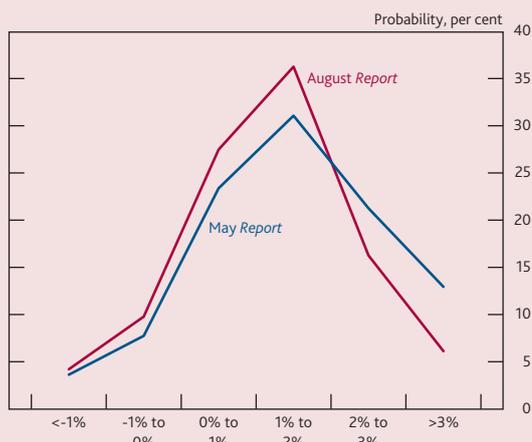
(a) For 2018 Q3, there were 22 forecasts for CPI inflation, 22 for GDP growth, 20 for the unemployment rate, 18 for Bank Rate, 15 for the stock of gilt purchases, 10 for the stock of corporate bond purchases and 9 for the sterling ERI. For 2019 Q3, there were 16 forecasts for CPI inflation, 16 for GDP growth, 15 for the unemployment rate, 14 for Bank Rate, 14 for the stock of gilt purchases, 9 for the stock of corporate bond purchases and 9 for the sterling ERI. For 2020 Q3, there were 15 forecasts for CPI inflation, 15 for GDP growth, 14 for the unemployment rate, 13 for Bank Rate, 13 for the stock of gilt purchases, 9 for the stock of corporate bond 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.

**Chart A** Forecasters are placing less weight on GDP growth being 2% or above than in May  
Average of forecasters' probability distributions for four-quarter GDP growth in two years' time<sup>(a)</sup>



Sources: Projections of outside forecasters provided for *Inflation Reports* in May and August 2017.

(a) Projections on the boundary of these ranges are included in the upper range, for example a projection of GDP growth being 2% is in the 2% to 3% range.

External forecasters' central expectations for CPI inflation at all horizons have, on average, fallen since the *May Report* (Chart B). Respondents to the most recent survey expected inflation to fall back to 2% by 2020 Q3, on average.

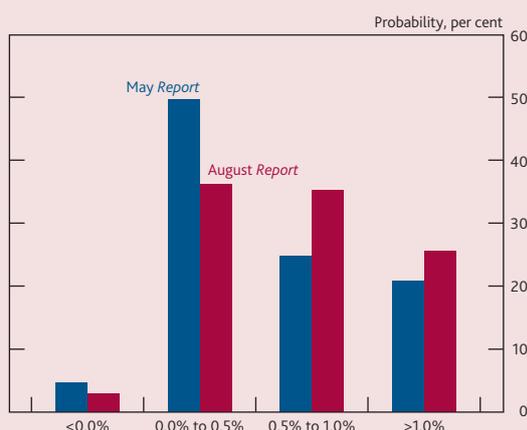
**Chart B** Forecasters expect inflation throughout the next three years to be lower than in recent surveys  
Average of forecasters' central projections of CPI inflation



Sources: Projections of outside forecasters provided for *Inflation Reports* between February 2007 and August 2017.

External forecasters' expectations for Bank Rate have, on average, risen by around 0.2 percentage points at the two and three-year horizon relative to May, to 0.7% and 1.0% respectively (Table 1). Respondents now place an average of just over 60% weight on Bank Rate being 0.5% or greater in two years' time, compared to a weight of around 45% three months ago (Chart C). As in May, almost all forecasters expected the current stocks of gilt and corporate bond purchases to remain unchanged over the next three years.

**Chart C** Forecasters now place more weight on Bank Rate being at least 0.5% two years ahead than in May  
Average of forecasters' probability distributions for Bank Rate in two years' time<sup>(a)</sup>



Sources: Projections of outside forecasters provided for *Inflation Reports* in May and August 2017.

(a) Projections on the boundary of these ranges are included in the upper range, for example a projection of Bank Rate being 0.5% is in the 0.5% to 1.0% 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/2017/augofe.pdf](http://www.bankofengland.co.uk/publications/Documents/inflationreport/2017/augofe.pdf).

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# 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.  
**PCE** – personal consumption expenditure.  
**PPI** – producer price index.  
**RPI** – retail prices index.  
**RPI inflation** – inflation measured by the retail prices index.  
**ULC** – unit labour cost.

## Abbreviations

**BCC** – British Chambers of Commerce.  
**CBI** – Confederation of British Industry.  
**CEIC** – CEIC Data Company Ltd.  
**CEO** – chief executive officer.  
**CFO** – chief financial officer.  
**CIPD** – Chartered Institute of Personnel and Development.  
**CIPS** – Chartered Institute of Purchasing and Supply.  
**EC** – European Commission.  
**ECB** – European Central Bank.  
**EME** – emerging market economy.  
**EU** – European Union.  
**FOMC** – Federal Open Market Committee.  
**FPC** – Financial Policy Committee.  
**FTSE** – Financial Times Stock Exchange.  
**GfK** – Gesellschaft für Konsumforschung, Great Britain Ltd.  
**GVA** – gross value added.  
**IMF** – International Monetary Fund.  
**LTV** – loan to value.

**MFIs** – monetary financial institutions.  
**MPC** – Monetary Policy Committee.  
**MSCI** – Morgan Stanley Capital International Inc.  
**MTIC** – missing trader intra-community.  
**OBR** – Office for Budget Responsibility.  
**OECD** – Organisation for Economic Co-operation and Development.  
**ONS** – Office for National Statistics.  
**OPEC** – Organization of the Petroleum Exporting Countries.  
**PPP** – purchasing power parity.  
**PRA** – Prudential Regulation Authority.  
**PwC** – PricewaterhouseCoopers.  
**REC** – Recruitment and Employment Confederation.  
**RICS** – Royal Institution of Chartered Surveyors.  
**S&P** – Standard & Poor's.  
**SMEs** – small and medium-sized enterprises.  
**SMMT** – Society of Motor Manufacturers and Traders.  
**TFS** – Term Funding Scheme.  
**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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