

Conditioning assumptions, MPC key judgements, and indicative projections November 2016

This document contains five tables of projections:

- Table 1 shows the conditioning assumptions used for the MPC's projections;
- Table 2 shows the MPC's mean projections for GDP, CPI inflation and LFS unemployment;
- Table 3 shows a summary of the headline forecast variables;
- Table 4 shows profiles that illustrate the MPC's key judgements as described in Section 5; and
- Table 5 shows indicative projections produced for the MPC by Bank staff to be consistent with the MPC's modal projections for GDP, inflation and unemployment.

The November projections in Tables 2, 3, 4 and 5 have been conditioned on the paths shown in Table 1, and the assumption that the stock of purchased gilts financed by the issuance of central bank reserves reaches £435 billion and remains there throughout the forecast period; the stock of purchased corporate bonds financed by the issuance of central bank reserves reaches £10 billion and remains there throughout the forecast period; and on the announced Term Funding Scheme (TFS) financed by the issuance of central bank reserves. The August projections were conditioned on the same asset purchase and TFS assumptions and market interest rates.

The '*Inflation Report* fan charts November 2016' document is available at www.bankofengland.co.uk/publications/Documents/inflationreport/2016/novfc.pdf.

The quarterly market interest rate paths are available at www.bankofengland.co.uk/publications/Documents/inflationreport/market_profiles.xlsx.

Table 1 Forecast conditioning assumptions^{(a)(b)}

	Average 1998– 2007	Projections			
		2016	2017	2018	2019
Bank Rate ^(c)	5.0	0.2	0.2	0.3	0.4
Sterling effective exchange rate ^(d)	100	74	74	74	74
Oil prices ^(e)	39	51	56	57	59
Gas prices ^(f)	29	45	47	47	48
Nominal government expenditure ^(g)	7¼	1	1¾	1¼	¾

Sources: Bank of England, Bloomberg, Office for Budget Responsibility, ONS, Thomson Reuters Datastream and Bank calculations.

(a) The table shows the projections for financial market prices, wholesale energy prices and government spending projections that are used as conditioning assumptions for the MPC's projections for CPI inflation, GDP growth and the unemployment rate.

(b) Financial market data are based on averages in the fifteen working days to 26 October 2016. Figures show the average level in Q4 of each year, unless otherwise stated.

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

(d) Index: January 2005 = 100. The convention is that the sterling exchange rate follows a path that is half way between the starting level of the sterling ERI and a path implied by interest rate differentials.

(e) Dollars per barrel. Projection based on monthly Brent futures prices.

(f) Pence per therm. Projection based on monthly natural gas futures.

(g) Calendar-year growth rate. Nominal general government consumption and investment. Projections are taken from the Office for Budget Responsibility's *Economic and Fiscal Outlook* associated with the 2016 *Budget*. Historical data based on NMRP+D7QK.

Table 2 The MPC's mean projections for GDP, CPI inflation and LFS unemployment

	Average 1998– 2007	Projections			
		2016	2017	2018	2019
GDP ^(a)	2.9	2.2	1.4	1.5	1.6
CPI inflation ^(b)	1.6	1.3	2.8	2.7	2.5
LFS unemployment rate	5.3	4.9	5.4	5.6	5.6

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

(b) Four-quarter inflation rate in Q4.

Table 3 Forecast summary^(a)

	Projections			
	2016	2017	2018	2019
GDP ^(b)	2.2 (2.0)	1.4 (0.8)	1.5 (1.8)	1.6
<i>Excluding backcast</i>	2.1 (1.8)	1.4 (0.8)	1.5 (1.8)	1.6
	2016 Q4	2017 Q4	2018 Q4	2019 Q4
CPI inflation ^(c)	1.3 (1.2)	2.7 (2.0)	2.7 (2.4)	2.5
LFS unemployment rate	4.9 (5.1)	5.4 (5.5)	5.6 (5.5)	5.6
Bank Rate ^(d)	0.2 (0.1)	0.2 (0.1)	0.3 (0.2)	0.4

(a) Modal projections for GDP, CPI inflation and LFS unemployment. Figures in parentheses show the corresponding projections in the August 2016 *Inflation Report*. Projections were only available to 2019 Q3 in August.

(b) 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.

(c) Four-quarter inflation rate.

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

Table 4 MPC key judgements^{(a)(b)}**Key Judgement 1: the fall in sterling supports net trade in the face of modest global growth**

	Average 1998– 2007	Projections			
		2016	2017	2018	2019
World GDP (UK-weighted) ^(c)	3	2 (2¼)	2¼ (2¼)	2¼ (2¼)	2¼
World GDP (PPP-weighted) ^(d)	4	3 (3¼)	3½ (3¼)	3½ (3½)	3½
Euro-area GDP ^(e)	2¼	1½ (1½)	1¾ (1¼)	1¾ (1¾)	1¼
US GDP ^(f)	3	1½ (2)	2¼ (2¼)	2 (2)	1¾

Key Judgement 2: heightened uncertainty weighs on investment, and productivity growth remains below past average rates

	Average 1998– 2007	Projections			
		2016	2017	2018	2019
Business investment to GDP ratio ^(g)	9½	9¼ (9)	9 (8¾)	9 (9¼)	9¼
Productivity ^(h)	2¼	1 (¾)	1½ (1¼)	1½ (1½)	1½
Participation rate ⁽ⁱ⁾	63	63¾ (63½)	63¾ (63½)	63¾ (63½)	63½
Average hours ^(j)	32¼	32 (32)	31¾ (32)	31¾ (31¾)	31¾

Key Judgement 3: household spending growth slows broadly in line with real incomes

	Average 1998– 2007	Projections			
		2016	2017	2018	2019
Credit spreads ^(k)	¾ ^(l)	2¼ (2¼)	2¼ (2¼)	2¼ (2¼)	2
Household saving ratio ^(m)	8	4¾ (5¾)	4 (5)	4¼ (5½)	4

Key Judgement 4: slack weighs on domestic inflationary pressures, but higher import prices take inflation back to the 2% target then above it for a period

	Average 1998– 2007	Projections			
		2016	2017	2018	2019
Dollar oil prices ⁽ⁿ⁾	39	51 (47)	56 (52)	57 (55)	59
UK import prices ^(o)	¼	10¾ (7)	4¼ (2¼)	2 (1¾)	1¼
Unit labour costs ^(p)	3	2¼ (2¼)	1¾ (2)	2½ (2¼)	3

Sources: Bank of America Merrill Lynch Global Research (used with permission), Bank of England, BDRG 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 August 2016 *Inflation Report*. Calculations for back data based on ONS data are shown using ONS series identifiers.
- (c) Chained-volume measure. Constructed using real GDP growth rates of 180 countries weighted according to their shares in UK exports.
- (d) 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.
- (e) Chained-volume measure.
- (f) Chained-volume measure.
- (g) Calendar-year average. Chained-volume business investment as a percentage of GDP. Business investment data based on GAN8. GDP data based on ABMI.
- (h) GDP per hour worked. GDP at market prices is based on the mode of the MPC's backcast. Hours worked based on YBUS.
- (i) Level in Q4. Percentage of the 16+ population. Based on MGWG.
- (j) Level in Q4. Average weekly hours worked, in main job and second job. Based on YBUS/MGRZ.
- (k) 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.
- (l) 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.
- (m) Calendar-year average. Percentage of total available household resources. Based on NRJS.
- (n) Average level in Q4. Dollars per barrel. Projection based on monthly Brent futures prices.
- (o) Four-quarter inflation rate in Q4.
- (p) 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.

Table 5 Indicative projections consistent with the MPC's modal projections^(a)

	Average 1998– 2007	Projections				Memo: mean forecast error ^(b)	Memo: level in 2015 ^(c)
		2016	2017	2018	2019		
Household consumption ^(d)	3½	2¾ (2½)	1¼ (1)	¾ (¾)	1¼	1½	1,192
Business investment ^(e)	2½	-2 (-3¾)	-1¾ (-2)	2 (4¾)	4	6¼	177
Housing investment ^(f)	3¾	4¾ (1¼)	¼ (-4¾)	1¾ (2½)	2	9	84½
Exports ^(g)	4½	2¾ (2¾)	2 (-½)	1 (¼)	½	5	548
Imports ^(h)	6	3¼ (1¼)	¼ (-2½)	-1 (-1¼)	-¼	4¾	601
Real post-tax household income ⁽ⁱ⁾	3	1¼ (2)	½ (½)	1 (1¼)	1	1¼	1,270
Employment ^(j)	1	1 (½)	0 (0)	¼ (¾)	½	1	32 ^(k)
Average weekly earnings ^(l)	4¼	2½ (2¾)	2¾ (3)	3¾ (3½)	3¾	1¼	495 ^(m)

(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 August 2016 *Inflation Report*. Calculations for back data are shown using ONS series identifiers.

(b) Root mean squared errors of one year ahead forecasts made between February 2003 and February 2015.

(c) £ billion chained-volume measure (reference year 2013) in 2015 unless otherwise stated.

(d) Chained-volume measure. Includes non-profit institutions serving households. Based on ABJR+HAYO.

(e) Chained-volume measure. Based on GAN8.

(f) Chained-volume measure. Whole-economy measure. Includes new dwellings, improvements and spending on services associated with the sale and purchase of property. Based on DFEG+L635+L637.

(g) Chained-volume measure. The historical data exclude the impact of missing trader intra-community (MTIC) fraud. Since 1998 based on IKBK-OFNN/(BOKH/BQKO). Prior to 1998 based on IKBK.

(h) Chained-volume measure. The historical data exclude the impact of MTIC fraud. Since 1998 based on IKBK-OFNN/(BOKH/BQKO). Prior to 1998 based on IKBK.

(i) Total available household resources deflated by the consumer expenditure deflator. Based on RPQK/((ABLQ+HAYE)/(ABJR+HAYO)).

(j) Four-quarter growth rate in Q4. Based on MGRZ.

(k) People aged 16+ employed in 2015 Q4, millions.

(l) Four-quarter growth in Q4 in whole-economy total pay. Growth rates since 2001 based on KAB9. Prior to 2001, growth rates are based on historical estimates of AWE, with ONS series identifier MD9M.

(m) Average pounds sterling earned per week in 2015 Q4.