



BANK OF ENGLAND

Speech

Treading carefully

Speech given by

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Introduction

In what is likely a first for a monetary policymaker, I would like to begin my speech today with a chart of the depth of tread on car tyres - as measured by the busiest tyre fitting station in the UK whom I recently visited in the South East. Generally speaking, the deeper the grooves are on a tyre, the better is its grip, performance and safety. When the recession hit in 2008, people began to delay replacing their tyres, implicitly accepting a deterioration in quality in the hope of saving on costs (Chart 1). What is surprising, however, is that although we are now into the seventh year of the recovery, the frequency with which drivers replace their tyres has not returned to pre-crisis levels.

This illustrates quite nicely that although the economy is thankfully returning to normal, we cannot blithely assume that relationships which held in the past will automatically revert. Several stylised facts in macroeconomics - such as the idea that deeper recessions are followed by stronger recoveries, and the idea that productivity can be relied upon to increase over time around a long-standing trend - have been long since disproven by the nature of the recovery in the UK. And questions remain about the how the economy operates in the wake of the Great Recession that make the setting of monetary policy more challenging.

In the rest of this speech I would like to put forward some thoughts on how one should approach decision taking in the face of such uncertainty. I will highlight three themes: proceeding with caution, considering all of the outcomes and retaining flexibility. I do so as a member of the Monetary Policy Committee, though you should note that what follows are my own views and may not necessarily represent the views of the committee as a whole. I don't think other members place quite so much weight on tyre tread depth as an indicator, and they probably wouldn't thank me were it to be deemed a bellweather for interest rate decisions in the future.

1. Proceed with caution

It is now 81 months since Bank Rate was cut to its current level of 0.5%. It has taken a lot of hard work since then to generate the recovery we are now experiencing. I mean that quite literally: the weakness in productivity that we have witnessed means that much of the growth so far has been generated by increased hours worked rather than an increase in output per hour worked. Participation in the labour force has increased in recent years, as has average hours worked per week. Having demonstrated such flexibility, it is fitting that people are now beginning to enjoy the benefits of an increase in real wage growth.

For comparison, following the 1990s recession Bank Rate stayed at its trough for 7 months before being increased again, and the equivalent number following the 1980s recession was only 6 months. Indeed were one to look solely at measures of the real economy relative to their value when previous tightening cycles began, you would have expected the MPC to have already begun raising rates by now (Chart 2). And I must admit to getting a gentle ribbing at the dinner table when I come home after each monthly MPC meeting to

say that I have voted for no change in Bank Rate once again. “All that work to decide to do nothing!” say my children.

But there are good reasons for Bank Rate to have remained lower for longer this time. First among them is that it is not the absolute level of Bank Rate which matters, but where it is relative to some “equilibrium” rate that would maintain demand in line with supply in the economy and keep inflation close to target. The size and nature of the shocks that accompanied the financial crisis meant that this equilibrium level fell dramatically in 2008-09. So far, in fact, that even cutting Bank Rate to a record low of 0.5% was not enough to prevent the unemployment rate rising. And in order to head off a further deterioration in the economy, the MPC embarked on a programme of Quantitative Easing (QE) designed to further support the economy. In total, the MPC has purchased £375 billion of government bonds through a scheme we call the Asset Purchase Facility (APF).

The persistence of those shocks and their after effects – including the need for ongoing fiscal consolidation, high levels of household indebtedness, and the subsequent events in the euro area - mean that the equilibrium rate is probably recovering only gradually. And I note at this point that at least some of this recovery in the equilibrium rate is likely to be matched by a fading of the stimulus from QE.¹

The second reason why it is reasonable for Bank Rate not to have increased already is that the relationship between the real economy and inflation has not been as one would have expected: Chart 2 shows that while most real variables - such as unemployment - are at or beyond levels at which Bank Rate had been raised in the past, most nominal variables - such as wage growth and inflation - are below. For example, despite unemployment declining by three percentage points from its peak in 2008, headline inflation has fallen by five percentage points over the same period to a record low of -0.1%. This is the inverse of what one would have expected based simply on the historical negative correlation between inflation and unemployment.²

Of course much of this weakness in inflation is due to movements in commodity prices and the exchange rate. Since 2008 we have learned more about how movements in the exchange rate, in particular, affect inflation. Contrary to the body of literature developed during the period of Great Stability, changes in the exchange rate do have a large and persistent effect on inflation through their effect on import prices. That means that the 18% appreciation of sterling which began in early 2013 (as the prospects for the UK economy improved relative to those of our trading partners) is currently exerting significant downward pressure on inflation and is likely to continue to exert some downward pressure for several years to come as lower import costs pass through the supply chain.

¹ As time passes the effect of the early tranches of asset purchases on the level of output diminishes. The peak impact on GDP of asset purchases probably occurred during 2013. Since then, the support to the level of activity from asset purchases has likely been waning. At the same time, the value of the £375bn stock of purchased assets has declined relative to nominal GDP (from 22.5% to 20.1%) as the latter has increased.

² Over the period 1971 to 2008 the correlation between unemployment and inflation was -0.2.

But not all of the weakness in inflation can be explained by the price of things we import - a portion³ of the current deviation from target is due to weakness in domestically generated inflation. The biggest domestic driver of inflation is labour costs per unit of output, and in order to generate inflation at target in the medium term, wages would ordinarily need to grow about 2 to 3 percentage points more quickly than productivity growth. The data are noisy, but over the period since the recovery began, that wedge - known as the unit wage cost - has averaged just 1% (Chart 3).

Of course for much of that period the weakness of wages relative to productivity was consistent with the presence of slack in the labour market. But something of a puzzle started to emerge in 2014 when - despite a significant narrowing of that slack - wage growth seemed slow to pick up. The early signs were that 2015 would be more promising, but the rate of wage growth seems to have levelled off again in the most recent data.

Wage data can be volatile in the short run, and this recent pause may prove to be more noise than signal. But there are several plausible explanations for why wage growth might have levelled off more recently.

- The first is quite simply that the number of hours worked per person per week has levelled off in the most recent data, and even started to decline. This could have a temporary flattening effect on the growth rate of wages earned per week.
- The second is the nature of the growth in employment that we have seen. It has been unusually skewed towards employees with less experience and educational attainment and in occupations that tend to attract lower levels of pay. These compositional effects tend to push down on starting salaries, though that shouldn't affect future wage growth prospects.
- A third explanation, and one we hear from the Bank's network of agents, is that the low level of headline inflation may be limiting upward pressure on pay in some cases as relatively small nominal pay awards are sufficient to increase real incomes. If this is an important factor, the lags between headline inflation and the determination of pay awards mean it could increase the persistence of weak wage growth for some time to come. This too should ultimately fade as the effects of energy and the exchange rate on inflation dissipate.
- A fourth potential explanation is that the severity of the recession and the increase in uncertainty that accompanied it has had a lasting impact on the decisions people take and the tradeoffs they make - just as it seems to have done in the market for tyres. It may be, for example, that with the recession still reasonably fresh in their memories, workers are marginally more reluctant to push for the kinds of pay settlements they would have been used to before 2008, or marginally less willing to take the step of switching employers in order to gain a higher salary.

³ As best we can tell around ½ percentage point.

In deciding how to vote in monetary policy meetings each month, I look across a wide range of indicators. There are many signs that the economy is normalising - the labour market is tightening, consumption growth is solid, investment is recovering, and even productivity growth is showing tentative signs of a return. And although the downward pressure on inflation from movements in energy prices and the exchange rate are proving persistent, they will not have a permanent effect on inflation.

But, there is residual uncertainty about the relationship between the real economy and inflation – something economists refer to as ‘model uncertainty’ - which in this instance augurs for caution in setting monetary policy.⁴ The most likely outcome is that wage growth will soon resume its recovery, but there are alternative states of the world in which it takes longer for that to happen. So I judge it prudent to tread carefully, and refrain from voting for an increase in Bank Rate until I am convinced that wage growth will be sustained at a level consistent with inflation returning to target.

2. Consider all of the outcomes

In the presence of uncertainty, it is wise not to put all of one’s eggs in one basket, but rather to hedge against undesirable states of the world. That is something that market participants know well, and it means that financial asset prices reflect not only what is thought to be the most likely outcome, but also the full range of other possible outcomes and the probabilities attached to them. So what is implied by a literal interpretation of markets - including government bond and interest rate swap markets - is not necessarily a true reflection of what participants expect is going to happen.⁵

For example, at the time we were producing the November Inflation Report, the market yield curve implied the first increase in Bank Rate would come in March 2017, and that it would reach 1¼% by the end of 2018. A literal interpretation of this would suggest that in 33 of the coming 36 months the majority of MPC members would have to return home to their respective dinner tables reporting they voted for no change in Bank Rate.⁶

An alternative interpretation is that the true expectation of market participants is for Bank Rate to increase more quickly than that, but that they are particularly worried about downside risks and are happy to accept a

⁴ The effect of uncertainty in the setting of monetary policy is much discussed. Brainard (1967) shows that when policymakers are uncertain about the effects of their actions on the economy, it is appropriate to move more cautiously than if the impact of policy is certain – a strategy known as gradualism. Data uncertainty is another reason why policymakers may adopt a gradualist approach. One common finding is that when data are noisier, a less aggressive response is desirable (Rudebusch, 2001; Orphanides, 2003). In addition, more recently, Evans et al (2015) have argued for delaying lift-off in the face of uncertainty about the strength of the recovery, given a view that there are asymmetric costs associated with the zero lower bound. However, the finding that policy should respond more gradually in the face of uncertainty is not a general one. For example, Söderström (2002) suggests that there is uncertainty about monetary policy’s ability to return inflation in the medium term, that may call for a pre-emptive response.

⁵ See Shafik (2015) and Broadbent (2015) for more on this issue.

⁶ Though should proposed legislation pass, the number of MPC meetings per year will reduce from 12 to 8, in line with the recommendations of the Warsh Review (Warsh, 2014)

lower expected return in exchange for insurance against bad outcomes.⁷ This would be consistent with the risks to the world economy that have come to the fore over the past year as emerging economies grapple with the twin challenges of transitioning to slower potential output growth and lower commodity prices. Although the direct trade links between emerging economies and the UK are relatively small, the indirect effects of a more dramatic emerging market slowdown through confidence and financial channels could be significant.

I suspect this latter interpretation is closer to the reality. Personally speaking, should the downside risks from the world economy fail to materialise, and absent further shocks, once wage growth has returned to a level consistent with inflation returning to target I would expect the economy to warrant a path for Bank Rate that increases more quickly than implied by the market yield curve used to condition the November Inflation Report. I think it is interesting to note that surveys of economic forecasters – a more direct measure of the expected future path of interest rates – show expectations for a faster pace of increases in Bank Rate. Having said that, I think all agents, and all members of the MPC, expect the future path to be gradual and limited.

3. Retain Flexibility

Of course one can never know exactly what the future holds. So when the time does come to raise Bank Rate, it will be important to retain the flexibility to change course if needs be, either by tightening policy more quickly than originally envisaged or by being prepared to loosen again. Were it required to respond to unforeseen events, the MPC would have two tools at its immediate disposal: Bank Rate and QE.

Past experience gives us a good dataset from which to gain an understanding of how changes in policy rates transmit to the economy. Based on a rich literature of international estimates over the period since inflation targeting began, the peak impact on inflation is generally estimated to occur with a lag of between 18 and 24 months, although it begins to have some effect within the first year. Comparisons between the US and the UK indicate that the transmission mechanism may be a bit quicker in the UK than in the US, perhaps reflecting the prevalence of longer term fixed rate mortgages in the US. However, these estimates are generally based on the experience of changing policy when rates are positive - relatively little is known about the transmission of negative interest rates which have only begun to be used quite recently in parts of Europe.

As for QE, we can be confident that it was effective in reducing the severity of the impact of the financial crisis. For example analysis by Bank staff suggests that QE had a peak impact on the level of real GDP of

⁷ The market curve represents the mean of the priced distribution of interest rates. Consideration of risks can cause this whole distribution to move relative to true expectations. Risks can also affect the shape of the distribution, though Dison and Elliot (2015) found that the shape of the distribution is currently being heavily influenced by the proximity of Bank Rate to the effective lower bound.

around 2.5%,⁸ and helped limit the long term impact of the recession on the economy. However, our knowledge of how QE affects the economy is based only on what we can learn from its use since 2009 - a much more limited sample than that available for changes in Bank Rate. And it may well be that were it used in different circumstances its effect could be quite different.

In light of the uncertainty about the transmission of unconventional monetary policies, the MPC has expressed a preference to use Bank Rate as the marginal instrument for monetary policy when the time comes to tighten. Specifically, we have said that we do not expect to reduce the stock of QE either through outright sales or by ceasing reinvestment of principal until Bank Rate has reached a level from which it can be materially cut. Choosing to focus this part of the tightening cycle solely on Bank Rate will at the margin imply a faster increase than would have been the case were we to combine it with a tightening via a reduction in the stock of QE as well. This will be more likely to give us the ability to respond to an adverse shock using Bank Rate rather than tools which are inherently less flexible and with which we are less familiar.

Based on past experience, the MPC currently judges that the level of Bank Rate which would provide room for a material reduction is around 2%. As Chart 4 shows, 67 of the 106 loosening cycles since the Bank was founded in 1694 were achieved by reducing Bank Rate by 2 percentage points or less.

You could argue that there is a case for choosing a level higher than “around 2%”. To do so, however, would extend the horizon over which we would be expected to reach that level, and by implication extend the horizon over which the stock of QE would be held on behalf of the MPC. Given the gradual pace at which the equilibrium rate may rise, such an extension could be very long.

It has never been the intention of the MPC to retain indefinitely the stock of assets purchased as part of QE.⁹ Were it to do so, there is a risk that maintaining such a large stock of government debt as a monetary policy tool might blur some external perceptions of the distinction between monetary and fiscal policy. That could lead to doubts over the independence with which we were pursuing our objective of price stability, which would represent a significant step backward. Decisions on the stock of gilts held in the APF have always been made solely by the MPC in the sole pursuit of its monetary policy objectives mandated by Parliament and that should always remain the case. Central bank independence has been shown to bring great economic benefit in the form of lower and more stable inflation - a result that has stood the test of the financial crisis and is something we should treasure.¹⁰

⁸ Joyce, M, Tong, M and Woods, R (2011), ‘The United Kingdom’s quantitative easing policy: design, operation and impact’, Bank of England Quarterly Bulletin, Vol. 51, No. 3, pages 200–12

⁹ For example, in his 2009 letter to the Chancellor requesting the MPC be able to use the Asset Purchase Facility for monetary policy purposes, the then Governor, Mervyn King said “At some future date, I would expect that the MPC would wish to exit from the strategy of buying assets and would wish to reduce the amount of assets held under the Asset Purchase Facility.”

¹⁰ See for example Alesina and Summers (1993), Klomp and De Haan (2009) and King (2013).

Conclusion

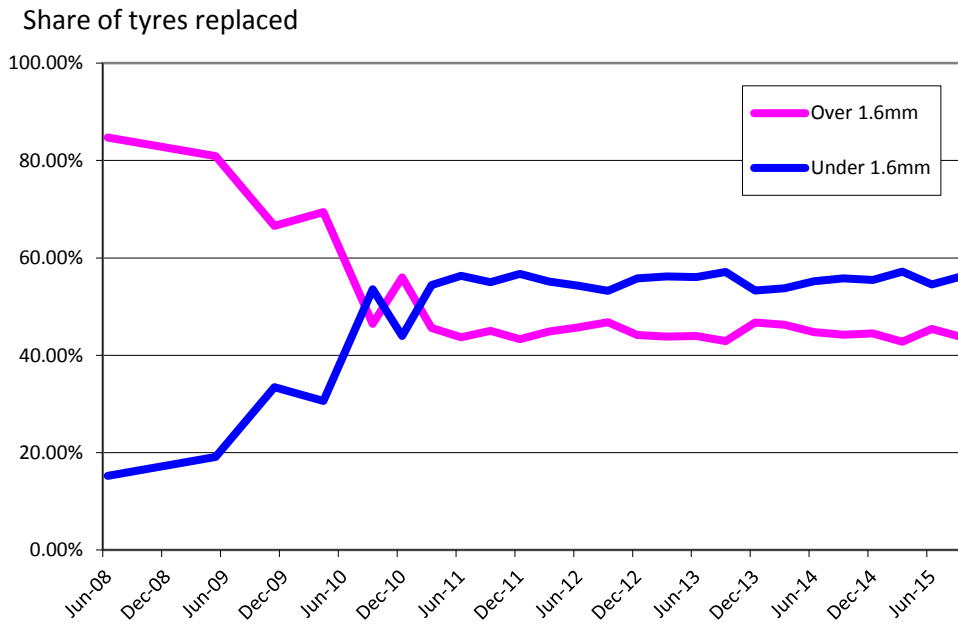
Let me sum up. We are still learning how the post-crisis economy behaves, and some relationships in the data have proven slow to reassert themselves or may have changed. The recent plateau in wage growth despite the ongoing recovery is one example, and I will wait until I am convinced that wage growth will be sustained at a level consistent with inflation returning to target before voting for an increase in Bank Rate. In this sense, I will proceed with caution.

But once I am convinced, absent further shocks, I can see Bank Rate rising more quickly than the path implied by the market curve at the time of the last Inflation Report. That is not to say I don't understand the shape of the yield curve – market participants must consider all of the possible outcomes when making their decisions, and the yield curve could be weighed down by worries about the world.

Whatever the outcome, it will be important to maintain flexibility to respond to new data and events. The flexibility the MPC has had to pursue its target independently since 1997 has brought great benefits. The MPC has also shown flexibility in developing new instruments such as QE to achieve its goals. Similarly, as monetary policy begins to tighten, the MPC will be focussed on Bank Rate as the marginal tool of monetary policy, given it's more flexible in nature than QE.

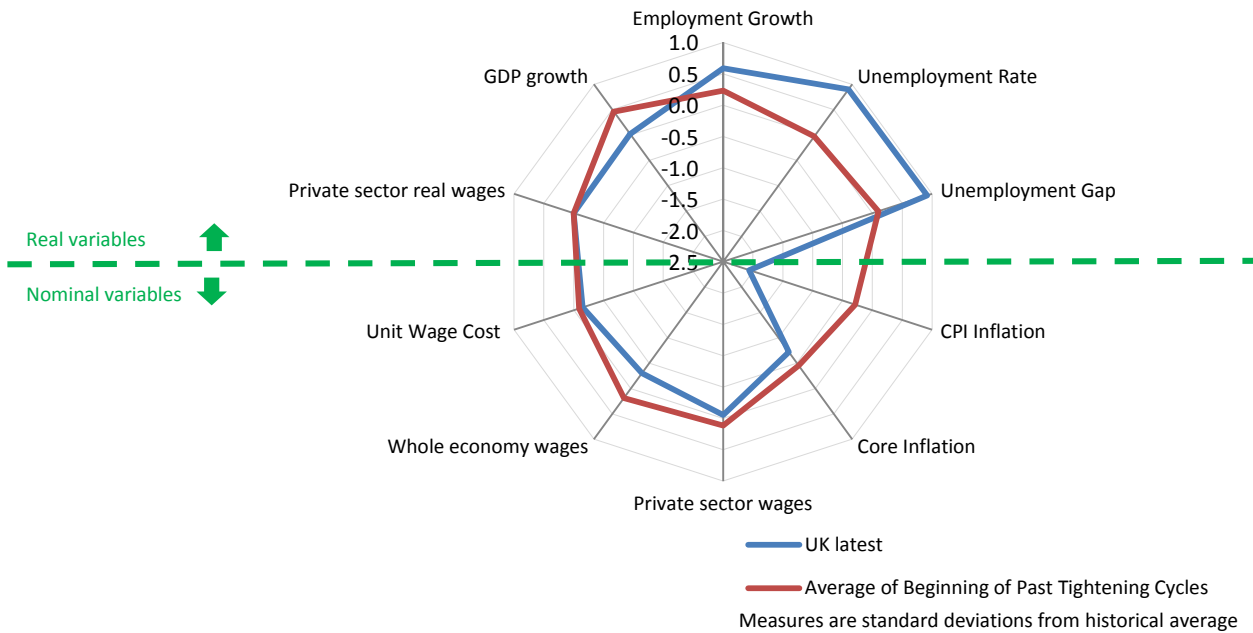
And occasionally, we might also consider tyre tread depth, just to see if the post crisis economy reverts to pre-crisis patterns or whether we need to think about the future a bit differently.

Chart 1: Share of tyre tread depths over and under 1.6mm on tyres being replaced



Source: Micheldever Tyre and Auto Services

Chart 2: Real and nominal macroeconomic data relative to the beginning of previous tightening cycles



Source: ONS, Bank Calculations. Unit Wage Costs measured as whole economy wages less whole economy productivity growth per head. Private sector real wages measured as private sector wage growth less CPI inflation.

Chart 3a: Wage and productivity growth

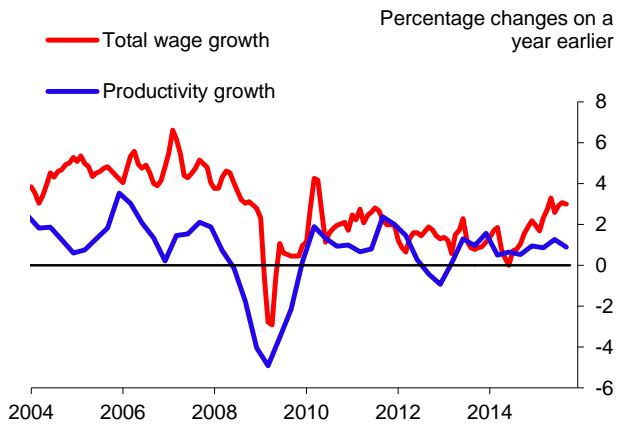
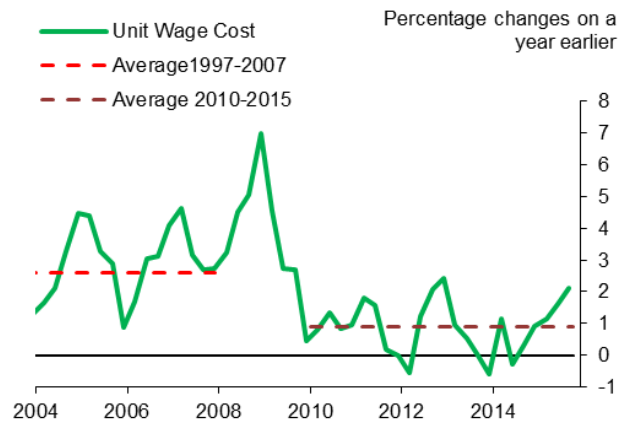


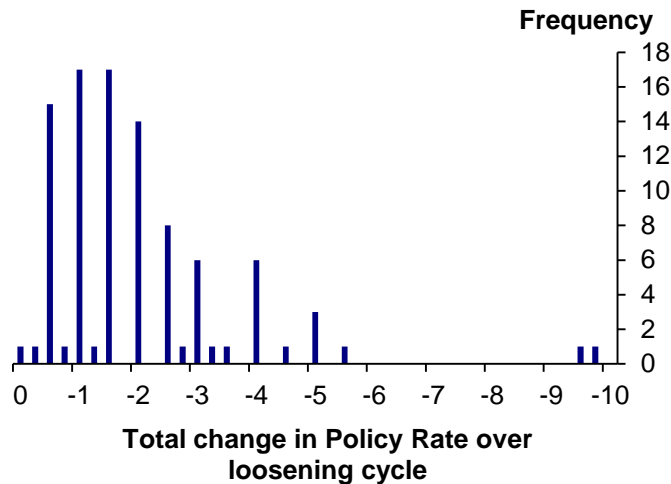
Chart 3b: Unit wage cost growth



Source: ONS and Bank calculations

Productivity growth is calculated as annual growth in real GDP divided by seasonally adjusted employment. Total wage growth is calculated as annual growth in seasonally-adjusted average weekly earnings total pay. Unit Wage Cost growth calculated as wage growth less productivity growth.

Chart 4: Distribution of total size of past loosening cycles since 1694



Source: Bank of England.

Bank Rate (1694 - 1972 Oct); Minimum Lending Rate (1972 Oct - 1981 Aug); Minimum Band 1 Dealing Rate (1981 Aug - 1997 May); Repo Rate (1997 May - 2006 Aug); and Official Bank Rate (2006 Aug - present). Underlying data available at: <http://www.bankofengland.co.uk/monetarypolicy/Pages/decisions.aspx>

References

Alesina, A. and Summers, L. (1993) "Central Bank Independence and Macroeconomic Performance: Some Comparative Evidence," *Journal of Money, Credit and Banking*, Vol. 25, No. 2, pp. 151-162.

Brainard, W. (1967), "Uncertainty and the effectiveness of policy", *American Economic Review* 57, 411–425.

Broadbent, B. (2015) "The MPC's forecasts and the yield curve: predictions vs promises," Speech given at Reuters.

Dison, W. and Elliot, D "Mean and modal Bank Rate expectations," blog available on <http://bankunderground.co.uk/>

Evans, C. Fisher, J. Gourio, F and Krane, S (2015) "Risk Management for Monetary Policy Near the Zero Lower Bound. *Brookings Papers on Economic Activity*.

Joyce, M, Tong, M and Woods, R (2011), 'The United Kingdom's quantitative easing policy: design, operation and impact', *Bank of England Quarterly Bulletin*, Vol. 51, No. 3, pages 200–12.

King, M. (2013), "Monetary policy: many targets, many instruments. Where do we stand?" Remarks given at the IMF Conference on 'Rethinking Macro Policy II: First Steps and Early Lessons,' Washington DC.

Klomp, J. and De Hann, J. (2009), "Inflation and Central Bank Independence: A Meta-Regression Analysis," *Journal of Economic Surveys*, Vol. 24, 593-621.

Orphanides, A. (2003) "Monetary Policy Evaluation with Noisy Information," *Journal of Monetary Economics*, 50 (April), pp. 605-31.

Rudebusch, G. (2001) "Is the Fed Too Timid? Monetary Policy in an Uncertain World," *Review of Economics and Statistics*, 83, pp. 203-17.

Shafik, M. (2015) "Interpreting the yield curve: warning or opportunity," Speech given at the annual conference of the Association of Corporate Treasurers.

Söderström, U. (2002) "Monetary Policy with Uncertain Parameters". *The Scandinavian Journal of Economics*, 104.1, pp. 125–145.

Warsh, K. (2014) "Transparency and the Bank of England's Monetary Policy Committee," <http://www.bankofengland.co.uk/publications/Documents/news/2014/warsh.pdf>