BANK OF ENGLAND

MEETING OF THE MONETARY POLICY COMMITTEE

May 2015

A meeting of the Monetary Policy Committee was held on Friday 8 May 2015. The following members of the Committee were present:

Mark Carney, Governor
Ben Broadbent, Deputy Governor, Monetary Policy
Jon Cunliffe, Deputy Governor, Financial Stability
Nemat Shafik, Deputy Governor, Markets and Banking
Kristin Forbes, External Member
Andrew Haldane, Chief Economist
Ian McCafferty, External Member
David Miles, External Member
Martin Weale, External Member

Dave Ramsden was present as the Treasury representative

The following members of staff were present:

Gareth Ramsay, Director, Monetary Analysis
James Bell, MPC Secretariat
Fergal Shortall, MPC Secretariat
James Talbot, MPC Secretariat
Melissa Davey, Editor of the Inflation Report

Transcript of the Monetary Policy Committee Meeting on

Friday 8 May 2015

Governor Carney. Good morning everyone, we will start now and – I will just double check – I do not have any pre-releases of data. Andy, do we have any?

Andrew Haldane. Nothing.

Governor Carney. So, why don't we go straight into it and I will turn to you, Ben, and then to Kristin, please.

Ben Broadbent. Thanks, Governor. So, let me begin as usual with the some of the main international news on the month. The activity data were, on the whole, a little softer. In the United States, the preliminary estimate of GDP growth in the first quarter of this year was, like our own, lower than expected. The economy barely grew on these estimates and, as Kristin pointed out, they may well be revised down, into negative territory. We've also seen a continuation of the negative data surprises in China; direct measures of output growth, including the PMIs, slipped again. I like to follow the nowcast calculated by Gavyn Davies and published in his blog and that suggests the Chinese economy is growing at an annualised rate of barely 5%, below the official estimates for the first quarter. And overall, his nowcast for the world or, more accurately, the developed countries plus China has fallen from 4% at the start of the year to around 3% currently. But Europe is a bright spot: the estimated contemporaneous growth rate is 1.8%, in annualised terms. That's bang in line with our forecasts for the first half of this year and it's up from a figure of 1.0%, precisely, at the start of the year. And, as far as I can see, this implies no real slowdown in UK-weighted growth, because the drop in the US looks to be due in part to temporary factors and therefore, for the moment at least, I am not so concerned about the softer data in the past few weeks, although it obviously bears watching.

Turning to our own economy and to today's decision, I will say first, just to pre-empt the conclusion, that I don't see much of a case, if any, for changing the stance of policy this month and will vote accordingly. And let me also put that in the context of the forecast. Yes, we held our three-year inflation forecast at above-target levels, despite the rise in forward interest rates since the February Report. As it happens, I don't believe that our minutes were the main reason for that move, incidentally: the move in forward sterling interest rates on the day those minutes were published was less than a third of what we've seen over the month as a whole. But, taking it as given, our forecast is nonetheless suggesting that the risks to short rates are marginally to the upside to the conditioning path we used for the May projections. However, those market interest rates have risen further during the round. I think they're currently on average of around 12 basis points higher than the level we assumed in the Inflation Report and the currency, having weakened through the past two weeks and then rebounded this morning, is also marginally higher than the level we used for our latest forecast. So my guess is that, were we to do the forecast again, right now, inflation at the three-year point would be closer to, if not bang on, the target. And, just as I don't believe that our minutes were that important in affecting forward interest rates over the past month, my guess – famous last words – is that the market won't move a great deal when these latest forecasts are published.

Let me briefly touch on some other things about our discussion yesterday. The first is about growth in the first quarter of the year. In the UK, it tends to be the case that short-run moves in demand are typically followed in employment data only after a short delay, six to nine months on average. So it's possible that, if the dip in growth in the first quarter is a meaningful one, we will see employment growth soften by a similar margin, all else held equal, later this year. But that's not what the surveys say. If employment growth does fall from here, it will obviously be from a very high level. The ONS's preliminary estimate shows GDP growth of 0.3% as we know in the first quarter; our guess is 0.5%; in the three months to February, at least, so not quite Q1, the number of jobs rose by 0.8%. And, of course, it's ultimately employment growth, not output growth per se, that determines the pace at which spare capacity is used up and the ultimate pressure on wages and prices. Put another way, the mix of data has led us to absorb that drop in growth into productivity rather than pushing us into an estimate that the output gap, or the degree of slack, rather, then re-widened between the fourth and first quarters.

Second, and turning to productivity, although this marks yet another quarter when we've been forced to lower our projections for the level of productivity, I was reasonably encouraged by the supply stocktake and its implications for that forecast. I don't think it's made us more certain about the precise path, quarter by quarter or even year by year. I'm not sure anything could do that. But it does give us some hope, I think, that it is reasonable to expect an acceleration in output per hour over the future. The composition effects are likely to dissipate; to the extent the financial crisis imposed a drag on productivity growth, that too should wane over time.

Third, the implications for interest rates of any such acceleration in productivity need to be thought through quite carefully. For given demand, and in the short run, faster productivity growth would reduce employment growth and the pressure on resources. But most of the mechanisms we envisage for a return of productivity growth – a change in the mix of employment back towards higher-skilled jobs, increased churn and resource allocation, and so forth – would tend to increase demand as well. This is not, in the forecast, a textbook exogenous story of technical progress. Indeed, as long as faster productivity is matched by demand (that's a reasonable assumption I think in the longer run whatever the source of faster productivity and it's a feature, as I say, of our forecast in the short run) then you might expect the neutral rate of interest to go up. Now, in a global capital market that would have to be true in the developed world as a whole, which is a very different question. But the only real point I want to make here is that it is a good thing, I think, that we are asking ourselves these thorny questions about neutral interest rates, challenging though that may be.

Anyhow, for the time being, it's clear to me that the current stance of policy is still appropriate and I vote for no change in either Bank Rate or the stock of purchased assets.

Governor Carney. Great, thank you, Ben. So Kristin and then Jon, please.

Kristin Forbes. I'm sure you've all heard the phrase: two steps forward, one step back. Do any of you know where that phrase comes from? Reportedly it's an anecdote about a frog's arduous attempts to climb out of a well. Don't worry, I will not attempt a drawn out analogy comparing the economy to a frog. But my reading of recent economic developments has made me sympathetic to the frog's frustration. The beginning of the month brought substantive progress on several issues that could support raising interest rates soon. Then new hurdles emerged. Today, I will describe three steps forward (on prices, supply, and wages) and then what may turn into a step back: UK and US growth data.

One issue on which we have made progress this month is our assessment of inflation risks. Our initial estimates of the impact of lower energy and food prices on the CPI is largely playing out as expected. Services inflation and DGI measures suggest underlying price pressures have remained quite stable. This is noteworthy given the powerful downward pressures from temporary external factors and sterling. Although there are uncertainties, recent data suggest we can currently remain comfortable with our prediction that 0% inflation today largely reflects temporary factors that dissipate into year-end and there is little risk of persistent deflation.

A second substantive step forward is our understanding of the supply side of the economy, thanks to the staff's stocktake work. Granted, this work confirmed the challenges of making a precise estimate of how much slack exists when the output gap is very small, especially when done by aggregating several highly uncertain measures. Nonetheless, this analysis made me more comfortable with our broad estimates. The downward adjustment to our participation assumption seems to more accurately capture the current balance between people working longer, demographics, and cyclical effects. The upward adjustment to supply from increased migration was also needed, although it is unclear how persistent this will be if a euro-area recovery takes hold and reduces the relative push out of the region. I have less conviction on whether our upward adjustments to potential hours or downward adjustments to CAPU will prove correct, but arguments why not to adjust them are just as tenuous as why to adjust them. All in all, this stocktake strengthened my assessment that any slack remaining in the economy is likely quite small, and there will be little, if any, within a year.

The final step forward, where we made some progress this month, is understanding recent weakness in wages. Compositional effects appear to have supported wages from mid-2008 to 2013, turned negative around when our models began indicating a slow-wage growth "puzzle", and dragged down wage growth by about 1% last year. Of course, headline inflation is determined by overall wage growth (no matter what composition effects). And, there is an important risk that low inflation today affects expectations, thereby dragging on future wage growth. Nonetheless, I found this analysis helpful in removing much of the seeming “puzzle” in recent wage performance, therefore reducing the need to search for alternate explanations.

This analysis also highlighted, however, risks why wage growth may recover faster than we expect. For example, employment growth is expected to slow mainly due to “congestion effects” from having fewer unemployed workers to match with increasing vacancies. These congestion effects would give workers more bargaining power, supporting faster wage growth.
Recent US data provides a useful comparison. Growth in average hourly earnings has been pretty stable since 2009 (at about 2% annualised). The lack of acceleration recently was surprising given record job creation in 2014 and unemployment falling to 5.5% in March (close to the estimated equilibrium rate). But recent US data suggest this apparent puzzle may be reversing. More specifically, the Employment Cost Index of private industry compensation just bounced to 2.8% in the year through Q1, the strongest since 2008. Much of the pickup was in performance-based pay, possibly capturing increased pressure to keep certain workers. US labour costs also just popped up by 5.0% in the 1st quarter (annualised), reflecting a mix of stronger hourly compensation and lower productivity. With so little remaining slack in the UK labour market, there is a chance that the UK experiences this type of turnaround in wage growth soon, especially after the drag to headline inflation from external forces fades.

These are the steps forward. Now, what may cause a step back? Many indicators suggest that the US and UK economies should be booming. Strong employment growth, especially when combined with the falls in energy and food prices, has contributed to substantive gains in nominal and real incomes. Measures of consumer confidence are strong and business surveys are upbeat. Debt levels have continued to fall, and credit is easily attainable for most. Yet preliminary estimates of first quarter GDP growth in the US and UK were disappointing.

In the UK and US, first quarter growth was slower than expected. At pre-MPC we saw that some of the UK weakness could be explained and there may be a quarterly revision issue. In the US, first quarter GDP growth was extremely weak at 0.2% (annualised). And even this overstates underlying growth, as it includes 0.8% of inventory accumulation and does not incorporate additional drag from more recent trade data. Yesterday I discussed a number of contributing factors; some could be temporary (weather, port disruptions, seasonal adjustment issues), while others could be more persistent (dollar strength, energy-sector investment).

Nonetheless, the simultaneously weak growth data in these two economies raises some questions. Just as financial market co-movement between the US and UK has increased, could real-market co-movement also have increased? If so, could temporary negative shocks in the US have more effect on the UK than in the past, such as through supply chains? Recent academic work shows the increased importance of intermediate goods in world trade, and that increased vertical specialisation could result in higher business cycle synchronisation across countries. Evidence from the impact of Japan’s earthquake supports this.

Or could there be some common drag on growth in both economies that has not fully been accounted for? Possibly greater weakness in China, as Ben discussed, than officially reported or evident in the alternative activity indicators. It is too soon to know, but given the questions about the preliminary Q1 data, it seems premature to make any substantive downward revisions to our growth forecasts at this time. We will, and should, revisit this soon.

Recent survey data is also consistent with solid underlying momentum in the US and UK. Although manufacturing survey data has been weak in both countries, service data has generally been stronger than expected and indicates solid expansion. Since services are about 80% of employment in the US and UK, continued strength in this sector seems at odds with a sharp growth slowdown.

Back to where I began, with the frog. My favourite way to complete this phrase is: two steps forward, one step back, still gets you ahead. And that is my assessment of the stocktake analysis, current state of the economy, recent data, and corresponding implications for monetary policy. The UK economy continues to move steadily ahead toward the time at which we should raise Bank Rate.

There will inevitably be some steps back along the way, potentially related to Greece or market movements as occurred over the past week. I expect that a tightening of monetary policy will occur sooner and at a faster rate than current market expectations. But for today, I vote no change, no change.

Governor Carney. Thank you very much. Thought you were going to go with frog and the frisbee there with your analogy. Three ducks. I have randomly generated Jon and then Minouche, please.

Jon Cunliffe. I will start with the oil price, rather than the frog, but I will get to the international section later. The fall in the oil price is moving through the economy broadly as we expected. The optimal policy response is to look through this, provided that inflation expectations remain anchored, and in my view the evidence on the month is that that they do remain anchored: the five-year, five-year inflation swap rate has increased a little since February and households expectations of inflation five years to ten years ahead were broadly similar in April to their level in February. So expectations do not seem to have moved. And the oil price has increased a bit recently albeit with some downside risk from a build-up of inventories. But, while the oil price and external factors account for a significant proportion of the deviation of inflation from target, 0.5%[1] of the deviation reflects the impact of spare capacity dragging on domestic cost growth, particularly on wages. So, although there is no reason to change my judgement of the way in which the externally generated disinflation is moving through the economy, it's not the whole story.

UK output was surprisingly weak in Q1 coming out at 0.3%; we expected 0.6% in the February Inflation Report and the median market forecast was 0.5%. Downside news came from the services sector. At the briefing meeting, staff outlined four possible explanations for the weakness. It will be revised; data volatility; temporary weakness; and persistent weakness. They argued that the evidence at present for persistent weakness is pretty small but it's a risk. And I buy that interpretation, including on the risk of persistence. Staff expect a revision to 0.5%. And the nowcast for Q2 is unchanged at 0.7%. So it does look like a blip and this interpretation is consistent with consumer confidence increasing for a fifth consecutive month in April to a series high since 2002. I think the final point worth noting on the UK was the upward shift in the yield curve over the past month has imparted a degree of monetary tightening.

The international picture looks a little bit weaker, as Kristin has said. We have written down UK-weighted world a touch in 2015 relative to where we were in February.

In the euro area, staff are currently expecting growth of 0.4% in Q1, unchanged from last month, and 0.5% in Q2. We don't yet have an official estimate for Q1, but activity indicators as a whole have picked up more quickly than we had expected at the beginning of the year and ECB QE has so far had a larger than expected impact on asset prices. But on a less positive note, there are a few straws in the wind that growth in the euro area might be softening. For example, some of the higher frequency indicators have dropped off a little in the most recent readings. It's too early to put too much weight on these and overall it looks to me as if the underlying drivers of growth in the euro area are consistent with a gradual recovery but there's a little more risk on the downside. And, on Greece and tail risk, progress in the negotiations is as bumpy as we expected, but the net news in the last few weeks for a deal is slightly positive so if anything the tail risk has gone down a little.

In the US, the advanced estimate of Q1 GDP was 0.1%, 0.5%[2] below what we expected in February and this reflects greater than expected cut backs in oil investment, bad weather, other factors and, as Kristin said, the risks to Q1 in the US may well be on the downside. Staff are assuming that growth will bounce back to 0.7% in Q2, but as in the UK there must be a risk that the weakness remains more persistent. The US is starting to mirror the UK in a number of other ways too: the lift-off date for interest rates implied by financial markets has been pushed back to the end of 2015 and beginning of 2016, and productivity growth continues to be weak. It was -0.5% quarter on quarter in Q1, which I think is the first time in nearly nine years that productivity growth has fallen in consecutive quarters in the US.

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[1] MPC Secretariat clarification: 0.5 percentage points of the deviation.

[2] MPC Secretariat clarification: 0.5 percentage points below what was expected.

Taking the UK and the international picture together, I think the prospects for growth are a bit weaker as our forecast confirms and there are risks to the downside, but all these changes are relatively small. And demand is only part of the picture.
A defining feature of the post-crisis landscape has been continuing deep uncertainty about the supply capacity of the economy. I don't think that there has been much recent news on the supply picture other than perhaps in the composition of the output gap. Unemployment fell to 5.6% in the three months to February, as staff expected, and is projected to fall further to 5.5% in Q1. And following the staff's supply stocktake, the average hours gap is now the main source of slack. Average hours were 0.4% weaker than expected and 0.9% below the new estimate of trend in the three months to February. But the participation rate is now closer to staff's estimate of trend.

The story on pay for me is broadly unchanged. Whole economy regular pay growth rose to 1.8% a year ago, in line with staff expectations and up from 1.6% in the three months to January. Private sector regular pay growth picked up to 2.2%. But, if we step back a bit, regular whole economy annual pay growth has not exceeded 2% since the middle of 2011.

In my view, weak productivity and labour market slack are clearly holding down pay growth. Ben set out some good reasons why our models might not be capturing the full effect of these factors on pay and there are other plausible explanations too, including: a change in the slope of the Phillips curve; lower pricing power by workers who have become accustomed to low wage increases; and compositional effects. But for me in the absence of an entirely convincing answer to the wage puzzle and, in the absence of any obvious incipient inflationary wage pressures, I don't think developments in wages are a reason to adjust policy at the moment.

And coming back to the supply stocktake, I found this a very useful exercise. But it didn't for me shed a huge amount of additional light on why productivity growth has been so low or whether it is likely to recovery over the forecast period. I am not saying I subscribe to global secular stagnation or the idea that the UK is incapable of closing the productivity gap with the technology frontier but the stocktake hasn't given me all that much greater confidence that this will happen over the forecast horizon. There remains considerable uncertainty about both the future path of productivity and the macroeconomic effects of different outcomes, including how long it would take for demand to catch-up with a longer-lasting fall in productivity growth.

So, in terms of my monetary policy strategy, I'm still in wait-and-see mode. It's the normal refuge of the policy maker, but I think it's justified. As the economy evolves, we should get a better sight of whether growth in the UK and the US is a blip, as we forecast, or something gloomier. And we will get more data on wages and productivity. If the recovery continues, but the productivity and wage puzzles remain unsolved then I think cyclical explanations will become less convincing.

To a degree, I am also in risk management mode, something I've spoken about before. Put bluntly, at the zero lower bound I am more confident in our ability to tackle excess inflationary pressure than I am in our ability to boost inflation.

So as far as policy is concerned, I vote for no change in Bank Rate and no change in the stock of assets purchased. Thank you.

Governor Carney. Thank you, Jon. Minouche and then Ian, please.

Nemat Shafik. Thank you. The data we have seen over the last month has done little to alter my views on the outlook for the economy. Of course there was the surprising weakness in the first quarter GDP numbers, but none of the other indicators suggest there is much reason to believe that this is the beginning of a longer period of weakness. And there has not been much in the way of significant news on the output gap, wages or inflation.

So I thought I would focus instead on the question which has dogged us most of this round which is why, beyond the first increase in Bank Rate in the second quarter of 2016, is the yield curve so shallow? The famous "David Miles question". And I am going to limit myself to four explanations before drawing out what this means for policy and, in particular, for the path of normalisation on which we will hopefully be embarking soon.

The first is that the low long rates may represent low expectations of potential output growth. If the current yield curve can be taken as a read of financial markets' expectations on the return on investment in the medium term, it suggests that they are sceptical that potential output growth can return to anything like pre crisis norms. For example, the ten-year real rate beginning in ten years' time is currently -⅔%, compared to a 2000-2006 average of +1⅔%.

I think this is an overly pessimistic assessment. I put quite a lot of weight on the argument that transitory compositional effects have been weighing on productivity growth recently and I think that was one of the biggest lessons from the supply stocktake. And my mood was considerably buoyed by the note we received during the supply stocktake which rebuffed Bob Gordon's Malthusian forecasts by proffering a future full of 3D printing, advanced robotics and human genome programming.

The second potential explanation is that low yields represent an excess of savings over investment, the famous global savings glut problem. The logic here would be that the ongoing headwind from deleveraging following a balance sheet recession will persist so long into the future that agents will need to be able to borrow at extremely low interest rates in order be incentivised to invest.

I find it difficult to believe that the debt supercycle, to borrow Ken Rogoff's language, will still be a drag on activity ten years from now (which would be 17 years after the peak in the levels of debt). But I do think that most of the risks to the central case we talk about do have some flavour of deleveraging, be it a greater drag from fiscal consolidation, spillovers from debt adjustments in Greece, or an unwillingness of firms to cross the Rubicon from net cash accumulators to net borrowers as their financial balances turn negative.

The third potential explanation for the very flat yield curve is that low yields represent an expectation that low inflation will persist. Based on the breakdown of the decline in the yield curve since the middle of last year into real and break-even inflation rates, it seems that the market attaches a small but non-negligible probability to this risk.

And that is probably a fair reflection of my own assessment. I know that the vast majority of the recent weakness in inflation has been driven by external factors, but I have a nagging doubt that the weaknesses of domestic inflationary measures such as unit labour costs may persist for longer.

The fourth potential explanation is that low yields represent extremely compressed term premia. We tend to think of term premia as only affecting the long end of the yield curve, but the truth is that they can also have an impact over the horizons which we tend to look at for the forecast purposes. Indeed, if this were ever to be the case, it would be now, with the ECB and BoJ having announced that they will purchase amounts equivalent to all advanced economy issuance over the next two years. You could say that we are currently experiencing "peak QE."

This is probably the explanation that I would put the most weight on. There is some market intelligence that market participants themselves don't believe the yield curve, and that would be consistent with surveyed economists' expectations being so much higher. And there are parallels of course here with the FOMC dots being higher than the US's market curve.

But of course, as Ben points out, this begs the question as to why participants don't trade this belief? I can actually think of several reasons. It is not a risk-free trade – many a trader has already been stopped out of seemingly sure-thing shorts – and, moreover, even if they were inclined to put the position on, it may not be deemed a good use of their institutions' scarce balance sheet.

From all of this, I conclude two things.

First, despite the fact that my own central expectation for Bank Rate lies above the market-implied path, I can see rational arguments along the lines of secular stagnation or lowflation that could justify agents having expectations for a path for Bank Rate that is consistently lower than my own.

Second, even if market participants did share my view that the market-implied path is lower than the most likely path, there are legitimate reasons why the two might not converge. Specifically, the QE juggernaut and a limited willingness to take on what is not a risk-free trade. I still believe there is a case for us to carefully convey that we consider the market-implied path to be at the lower end of the plausible range. And last night's election results resulted in the path moving a little bit further down: the ten-year gilt moved down to 1.84% today from the level of 2% which it had reached yesterday. But we must do so in a way that recognises that central banks' impact on term premia are part of the reason it is so. And recognising that we have a responsibility to manage term premia as part of a well thought out strategy of moving toward policy normalisation.

We should be very aware of two risks. First, that, given the structural compression of term premia, it is possible that the market curve would not move significantly higher even if we said what we really thought, which would be rather embarrassing. And second, we should be aware of the risk of a sharp move higher in yields, perhaps disproportionate to the message we are trying to send. This risk is made all the more real by the sharp moves that we have seen in government bond markets over the past week including yesterday in the wake of frankly second-tier data releases.

To sum up. Because I attach only a moderate weight to risks of secular stagnation and lowflation, I believe that rates will likely increase more quickly than the market curve currently implies. But I think we have to hold our nerve before expressing strong views on the shape of the yield curve. Long rates are already broadly moving in the right direction and when the time comes communicating that message with financial markets will be a delicate task, and probably doesn't contain much room for big surprises.

As I said at the outset, my views on the economy have not changed since last month, so that time has not yet come. So I vote for no change in Bank Rate and no change in the stock of purchased assets.

Governor Carney. Thank you, Minouche. So Ian and then David, please.

Ian McCafferty. Thank you and good morning everyone. I thought this month's forecast discussions particularly rich, and the supply stocktake provided some helpful new insights about each of the puzzles that have confronted us in recent months. I think it would be too much to expect that we arrived at completely definitive answers on any of them, but I do think there is now less unexplained in each of the key three puzzles, and I am therefore in a slightly more comfortable place.

On slack, our conclusion that there remains close to half a point left seems reasonable, even though I could take issue with the way in which we have derived the figure from the adjustments within the bottom-up framework. Combining that approach with a top-down assessment seems a sensible improvement, and suggests to me that our narrative about the level and the nature of slack needs to move away from the arithmetic description of its component parts towards something a little bit more holistic and less precise.

But looking forward, the timing of the closure of the output gap will depend not only on the outlook for demand and productivity growth, but also the stability of our various star equilibrium estimates, which we will still need to watch closely. The average hours gap, as Jon's just said, is now our key element of remaining slack, and I am finding a high correlation and a good predictive fit between desired hours, our h^*, and real personal income growth, such that h^* might fall back significantly over the next year or so as the improvement in real incomes comes to be felt. In effect, this gives us some potential upside risk as to when slack is finally fully absorbed.

On wages and on productivity, the key lesson from the stocktake was, for me, how important the compositional employment effects appear to be for both, and how much of those effects can be expected to unwind over the next year or so. Indeed, as Ben suggested yesterday, if we combine these compositional effects with slightly changed lags between slack, wage growth and productivity, a good deal of the puzzle about recent weaknesses tends to disappear. The recent weakness on wage growth is therefore slightly less anomalous than perhaps it was before though, looking forward, such changes in the lag structures, if they exist, might imply that wage growth later in the forecast could be somewhat faster than we expect, too.

Turning to the slightly disappointing data news this month, I think we are right not to take too much of a signal from the weaker GDP data in either the US or the UK.

For the US, Kristin's detailed examination of the US data confirmed my own judgements about the degree of weather-related distortion and the residual seasonality that appears apparent in the government spending component contained in the Q1 data, suggesting the possibility at least of a stronger bounce back come Q2.

For the UK, in judging recent momentum, we should not forget that we are operating with different vintages of the data between the first and second half, with the likelihood that half two might yet be revised up. And this is particularly true of business investment, which was initially estimated to have fallen late last year, in strong contrast to the survey evidence. As far as the Q1 GDP data is concerned, there appears to be, at least to me, enough explanatory power in the combination of data issues, erratics and temporary factors to explain the weakness, such that we do not need to resort to more persistent explanations at this stage. The balance of recent growth has clearly shifted, with manufacturing facing some headwinds from the stronger exchange rate, and construction (especially repair and maintenance) facing some election-related disruption, but overall, the survey data suggest healthy growth into the summer, and I take comfort from the calculation that if output remained flat at the level of March through Q2, quarterly growth would already be around 0.5%.

Further ahead, the outlook will be determined primarily by the attitudes of consumers. If consumption continues to grow solidly, business investment will follow. The current strength of consumer confidence suggests that consumers will spend a good proportion of the windfall from oil prices, the weakness in the latest retail sales data notwithstanding.

If I turn to the balance of risks around that central outlook, I agree with the modest downside skew we've placed on GDP. But on the inflation side I think the balance of risks shifts as the forecast unfolds: in the near term, the risks probably lie slightly to the downside. I am sceptical of the sustainability of the recent run up in crude oil prices, given the fundamentals of supply and stocks, and my guess is that we will see some persistence in low wage growth for the remainder of this year, given that we are now past the main period for wage settlements for 2015.

But over the second half of the forecast, that balance of risks changes. By the time of the 2016 wage bargaining season, slack will effectively be zero, and job churn is likely to have recovered, such that growth in average wages may well start to reflect the pressures that are already apparent in the surveys of marginal wages for job movers and new starters. Add to that the unwinding of the composition effects, and exchange rate pass through uncertainty and some attempts by firms to enhance their margins, I fear that we may be faced with a little more inflationary pressure than our current modest overshoot to 2.1% suggests. That's by the third year of course.

Turning to policy issues, I thought yesterday's discussion about movements in r* and the decay in stimulus from QE interesting, and provided a helpful conceptual framework. But in terms of policy decisions month by month, it strikes me that it is the first derivative of each, whether r* is rising faster or slower than QE is decaying, that's actually critical, and I find that even harder to assess than the level of r* itself.

So my voting decision remains based on the balance of risks around our central outlook. And here, things are starting to shift. At the beginning of the year, following the collapse in oil prices, I changed my vote on the argument that there was a risk, that I did not wish to exacerbate, that persistent ultra-low inflation might de-anchor expectations and lead to a prolonged inflation undershoot. That "deflation" risk is now, in my judgement, at least declining. Inflation is now less likely to turn negative (other than in April) than expected earlier, inflation expectations appear to be stabilising and remain well-anchored, and consumer surveys suggest that very low inflation remains benign.

But other considerations are taking its place. First, the supply stocktake suggests that there may well have been a little more slack in the economy than I thought late last year. Our starting point for Q2 is still around ½%, similar to that expected last autumn, even after the healthy growth of recent quarters. Second, after a pickup earlier in the year, wage growth has slipped back slightly, suggesting that serious upward pressure is unlikely now until a little later than I had originally thought. Set against that is my view that the risks on inflation remain to the upside towards the end of the forecast. Put together, these leave my decision finely balanced, but with no immediate need to start the gradual normalisation of policy, particularly until some of the immediate downside risks –

I was going to say surrounding the UK election, but I think we can strike that – the Greek negotiations and the underlying pace of global growth until those risks become less acute.

I suspect that the conditioning curve in our forecast will prove with hindsight to have been a little too flat. But I am happy not to make too much of a meal of that in our communications, either in the minutes or in the forecast narrative, while the current market jumpiness persists. So for today, I vote for no change in Bank Rate and no change in the stock of purchased assets.

Governor Carney. Thank you, Ian. So we have David and then Andy, please.

David Miles. Thank you, Mark. Let me start with some observations on the very near-term outlook. I think we are right not to read too much into the weak provisional estimate of Q1 GDP. I think it is a bit unclear actually whether over the next few quarters growth will be a little bit above or a little bit below the long run quarterly average. I think the long-run quarterly averages are probably somewhere between 0.6% and 0.7% increase a quarter. I think that a central path for quarterly growth over the next few years which has rather more 0.6s a quarter than 0.7s doesn't seem to me implausible and that is what our Inflation Report is going to show. If anything, I think things are perhaps more likely to turn out a bit stronger than this further ahead, given a conditioning path which is a very low Bank Rate really right out to the forecast horizon and I will come back to that in a minute.

On inflation, I think we have every reason to continue to think that the annual inflation rate will start picking up towards the end of this year. In fact, I suspect that the recent and what is now very sharp rise in oil prices – up about 40% over the last couple of months – might turn out to mean that the upward move in the annual inflation rate may actually start well short of the end of this year. I also suspect that household expectations of inflation, which I think are quite significantly influenced by things like oil prices, may actually start to move higher from right now onwards.

I think the key question, as always in some ways, is what path for inflation do we think is most likely further down the road, once the ups and downs of commodity prices and exchange rates have worked their way through. And of course that judgement depends on what we do on monetary policy. Now in the Inflation Report we are going to be saying something about the likely outcomes based on a path for Bank Rate which doesn't lift off until around the middle of next year and then does so at a very gradual pace. I think there is an issue on how we describe that forecast. I don't view this as an issue primarily about trying to manipulate the yield curve. I think there is a substantive question here about our understanding of how the economy works. I'd like to just pose very briefly some questions about that and offer some rather subjective and probably rather simplistic views on it.

By early 2018 on the Inflation Report central forecast, the UK will have grown at about the long run average rate for about 4 years, spare capacity will have long gone, and the impact of any commodity price changes we have seen recently along with exchange rate changes will have worked their way through. If Bank Rate was then about 1.3% – I'm talking about the start of 2018 – which of course would be a fairly significantly negative real rate, what would be the inflation outlook then be? Would inflation be fairly steady at close to the target or would it instead be rising away from it? You could couch that question in terms of r* or about persistent headwinds to demand. I can certainly see a set of factors that would make you think that the appropriate level of Bank Rate at that point – I'm talking again about early 2018 – consistent with our inflation target should be significantly lower than the average nominal rate over recent decades. And some of those factors that would lead you to believe that what you might call r* at that point would be a lot lower than the average of recent decades are global and some are what you might call UK-specific. Let me briefly mention four, and I think it is helpful to try to calibrate these things because without doing that I think we are kind of just talking around the issue frankly: credit spreads, fiscal headwinds, what you might call secular stagnation(which is to some extent a global phenomenon) and risk aversion.

So credit spreads: our own assessment is that the size of credit spreads will be larger than the average of the decade leading up to the financial crisis by an amount which converted into Bank Rate equivalents is I believe somewhere between 50 to 75 basis points.

Fiscal headwinds: if the government sticks to the budget plans then by 2018 those fiscal headwinds might knock something like 0.9% off the level of GDP and I believe that, using ready reckoners from the model, to offset that you might need Bank Rate to be about 75 basis points lower.
Global secular stagnation. Now, one version of this is the Summers story that the desire to save relative to the incentive to invest will be persistently greater than it used to be. I have to say, it's not clear to me why this should be so and I am really rather doubtful whether it holds in the UK. We have a low household savings rate and it has been on a falling trajectory for the past few years. Our expectation is that it gently declines a little bit from here. Of course UK investment has been weak, so that certainly is consistent with the secular stagnation story of lower incentives to invest but, then again, we have had spare capacity in the UK and a relatively weak recovery from a very deep recession. I think it is very difficult to calibrate this, to work out what you might throw into a calculation of r* for the secular stagnation thing. Maybe it's as big a head wind as fiscal drag. I rather doubt that but, if it were, then that might knock another 50 to 75 basis points off what you might call the old r*.

Higher risk aversion: actually I think if you believe in higher risk aversion, and I do, then arguably that is already showing up in credit spread and what you might have counted as part of the secular stagnation component, so I think it would be double counting to add another bit on for all that.

Now all this is extremely subjective, back of the envelope, but, for what it's worth, if you add up those things – credit spreads, fiscal headwinds, secular stagnation – you would want to knock off something between 175 and 250 basis points off what you might call the old estimate of neutral Bank Rate, which I think was somewhere around 5%. So that would give you, for what it's worth, a range for r* at the beginning of 2018 that I think is somewhere in the region of 2½% to maybe a little bit above 3%. Now, clearly that is – if you took that seriously – someway north of the conditioning assumption for the beginning of 2018 which is 1.3%. Now, I do not want to push all this, in some sense spuriously accurate, calibration too far. But let me take it just one step briefly further. Supposing that you did think that about 3%, maybe a bit under 3%, was about the right level for Bank Rate for mid-2018. Well, so what? Well, clearly, that does not imply at all that you should raise Bank Rate now – not something I am going to vote for. But I think it does have some implications when you think about strategy. So let's think about gradients, which we don't want to be steep, and lift off dates. Now, I would consider 25 basis points a quarter to be gradual and suppose you did count that as gradual, when would you then need to start, to get to about 3% by mid-2018? Well, the answer is not a complicated calculation, the beginning of 2016. And that is pretty different from what the market implied path that we are using as conditioning for the Inflation Report is. That is one where you start lift off in the middle of 2016 and you go up at about 10 basis points per quarter, as opposed to starting at the beginning going up 25 basis points a quarter.

What is the relevance of all this to policy right now? I think in terms of setting Bank Rate today perhaps very little. But I don't think we should ignore it, and of course we have not ignored it. We have talked about this in the minutes and that is right that we should have done so. Because I do not think anyone will thank us if we give the impression of thinking that the market implied curve gives a central guide to our view on policy, if it isn't a central guide to our view on policy.

Anyway, my own view is that these considerations should shape the language in the Inflation Report when we come to drafting that later today.

For today, though, I vote to maintain Bank Rate where it is and the stock of assets purchases unchanged.

Governor Carney. Thank you very much, David. So, Andy then Martin, please.

Andrew Haldane. Thank you, Mark. Let me first consider news over the month. And here a quite interesting summary statistic on recent data releases is provided by Citigroup's surprise indices, which weight together surprises to a wide range of economic indicators by country.

A month ago, these surprise indices were telling a story that was, well, not very surprising actually. For the euro area, the index was around one standard deviation above its mean, having tracked below throughout 2014. In other words, since the turn of the year, euro-area data has tended to surprise to the upside. For the US, by contrast, that surprise index was around the same amount below its mean, with data surprising to the downside. For China the index was pretty volatile either side of the mean, while for the UK the index was close to its mean.

Over the past month, we have seen pretty significant moves in all of these surprise indices and in the same direction. The US index has moved into slightly more negative territory than a month ago, with data continuing to surprise a little to the downside. In China, the data surprises have been large and negative, taking it to one standard deviation below its mean. For the euro area, the surprise index has also fallen, indicating as Jon mentioned a somewhat weaker recent pattern of news, although the index itself remains above its mean. Finally, the UK's surprise index has also fallen to below its mean, meaning data surprises have been weighted a touch to the downside. Now these indices are no doubt noisy and are certainly no more than a rough summary guide to the data we have had reported to us.

Nonetheless, what I find interesting about these recent patterns are three things. First, the picture of negative surprises appears to be common across countries, which has not been the case in the recent past. Second, this picture of somewhat softer activity jars just a touch with the up-tick in growth we are forecasting, in the UK and globally, moving from Q1 into Q2. Third, as Minouche said yesterday, movements in the yield curve over the month appear to have been rather oblivious to this macroeconomic news. And that by itself could pose a risk, if tighter credit conditions were to coincide with somewhat softer global activity. Of course it remains to be seen whether this negative run of surprises will continue. What we can say, however, is that they have tended historically to be serially correlated.

Let me now turn to the forecast round and how my judgments on three issues; slack, wages and inflation have been shaped by it.

First, on slack. Here, the Socratic paradox – the more I learn, the less I understand – could not be more apt. Because my confidence intervals around by slack estimates are now probably a touch larger than they were before. They could easily be an order of magnitude. Having assessed the evidence, I am inclined to think the pool of potential supply, both labour and capital, could be somewhat larger than I'd previously thought. Let's take migration, in particular potential migration. Some of the recent boost to migration numbers has doubtless been cyclical and may dissipate. But I suspect the lion's share may reflect differences in relative wage levels, agglomeration effects and improved matching technology, which are likely to be longer-lived.

Now to date, this migration effect appears to have affected mainly jobs and wages of lower skilled workers. But as migrant labour seems to have above-average skills, the boost to labour supply, and the dampening effect on wages, could broaden across the skill spectrum, even as, indeed, especially as, job-to-job flows pick up.

We also had a chance to assess the degree of potential spare capacity within companies. And I was struck here by the Agents' survey suggesting output within firms could potentially expand quite considerably, perhaps as much as 5 to 10%, without imparting significant upwards inflationary pressure.

Second, on wages. I am sure it was directionally right to have shaded down our near-term wage growth forecasts. But despite this, and having nudged up our output gap estimates, weak wages over the past 18 months or so remain to a degree unexplained, even after taking account of compositional effects. Cumulatively, these wage residuals are also still reasonably sizable, equivalent perhaps to a percentage point or two on the output gap. Moreover, in our forecast, although weaker in the short-run, wage growth and the labour share revert back to their historical means, in the latter case rising sharply from current levels.

These two effects are related. It is the fact that wages have risen less quickly in the past than productivity, lowering the labour share, that has generated the wage residuals. And it is because these errors then correct over the forecast horizon that wage growth mean reverts and the labour share rises sharply. This, of course, may well prove to be true.

But what I think this treatment does not allow for is the possibility of a structural break in the wage relationship. That might occur because wages fail fully to claw back the ground lost, even relative to productivity, during the crisis. Say, because wage growth has moved to a new norm closer to 2% than 4%.

Or it might occur because the labour share may, for technological and structural reasons, not rise back to its historical average. Indeed, it could even be trending downwards over time. Based on cross-country experience, both explanations have some support. In a range of other countries, particularly the US, wage growth has fallen behind productivity on a sustained basis. The labour share in these countries has, as a result, tended to trend downwards. Although the fall in the labour share in the UK has been neither as large nor as long-lived as elsewhere, I find it a bit harder to think of reasons why the UK's labour share would rise sharply, reversing its trend over the past 15 years or so.

Third, inflation. If wages were to follow a weaker profile, this would increase somewhat the probability of low inflation persisting for longer. Interestingly, this continues to be mirrored in the inflation expectations of households, companies and, to a lesser extent, professional forecasters at the two-year horizon.

In our Inflation Report, we are assigning a 50% probability to inflation exceeding its target two years ahead. For professional forecasters, that probability is just over 40%. For companies, it is around a third. And for households, it is around a quarter.

Against this, financial market measures of inflation expectations have bounced back up somewhat over the month. So where does this leave me? Last quarter, I asked the staff to re-run the February forecast using my own judgements on slack and inflation expectations. I also asked them to run various policy rules through these forecasts to generate policy paths. A literal reading of those simulations back in February suggested the case for an immediate cut in rates to meet the inflation target within two years. Risk management considerations, including uncertainties about the output gap and the presence of the ZLB[3], strengthened that case.

On the other side, there are clearly genuine uncertainties involved in any model-based simulation. Just ask the pollsters. Including about just how effective and credible a further monetary easing might be. Weighing these two considerations, I judged then that there was not a sufficiently strong case for moving rates in either direction at the present time, but that there was roughly as great a likelihood of the next move in rates needing to be a fall as a rise, in other words, a neutral stance. This is a process I will be repeating using as a starting point our May forecasts, again adjusted for my own judgements, some of which I outlined. Pending that update, I maintain my neutral stance on the next move in rates.

And for today, my decision is to leave Bank Rate and the stock of asset purchases unchanged. Thank you.

Governor Carney. Thank you, Andy. Martin, please.

Martin Weale. Thank you, Governor. The election apart, the most important recent piece of news has been the disappointing growth figures for both the UK and US in the first quarter. The Bundesbank also commented on weak data for Germany for two months in a row; there seems to have been a co-incident wobble in all three countries. The international nature of the wobble does not on its own suggest that it is more than temporary. While there's a risk that it may be, I am happy with the central view that growth is firm in the euro area and that our own growth rate in the rest of the year will continue much as we had expected in the absence of the first-quarter wobble. Of course, that does mean that the path of output is lower.

In the last few days yields have risen. These movements may have been influenced by the rising price of oil, leading to less concern about sustained deflation, notwithstanding the fact that the oil price remains much lower than last summer. Nevertheless, it is worth noting the sort of change we have seen in the UK 20-year yields over the last month has a chance of about one in thirteen of happening.

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[3] MPC Secretariat clarification: the Zero Lower Bound on interest rates.

I continue to look to the labour market for evidence of tightening supply and future inflationary pressures, and the stocktake was very helpful. LFS unemployment has now fallen to 5.6% with the monthly figures for February showing 5.4%. After the recent sharp falls in unemployment is the rate of decline slowing sharply? The claimant count fell in March by its smallest amount since September of last year. That is, however, not as yet a strong pointer to a more gradual decline in unemployment.

It was suggested that we should look at inflow and outflow rates. The data to do this for the claimant count are much more readily available than for the LFS measure of unemployment. These show that the outflow from claiming has been rising steadily and is now slightly below its level of late 2007 which was the highest value of this century. The inflow rate has been lower than its previous trough since July of last year. Moreover, the steady state claimant count derived from inflows and outflows has, for the last two years, been close to the actual rate.

There are two points from this which may extend to LFS unemployment. First of all, while the outflow rate is high and the inflow rate is low, the movement in neither over the last two years suggests that they have reached limits. I see little evidence that inflow and outflow rates themselves will limit the fall of the claimant count in the near future and suspect that they will not do so for LFS unemployment either; flow rates do not, on their own point to the decline in unemployment slowing sharply. Secondly, the close link between the steady state and actual rates makes me wonder how far flow rates do tell us much more than the unemployment rate does on its own. On balance I expect the latter to continue to decline more than modestly.

One area in which flow rates might matter is, of course, in the determination of wages. The stocktake did look at this, but it is perhaps it is something that could be explored when we next review labour market conditions in detail. In the meantime we are left with wage growth which appears weak, as we have noted repeatedly. Movements in total pay have been distorted by bonus effects. It was reassuring to see slightly more month-on-month movement in private sector regular pay in January than we have had since September of last year. I think little more can be said of the February figures, except that they would reassure someone who feared a powerful and immediate link from inflation to pay growth. As before, the predictable component of inflation in two to three years' time depends largely on what happens to pay relative to what happens to productivity.

I do not find it helpful to try to break the wage composition effect down into cyclical and structural effects, or effects which were in previous forecasts and which were not. I had assumed that there would be some recovery in productivity growth, mainly on the grounds that productivity had grown steadily for more than a century and that the current stagnation is so unusual; the composition effect offers a micro-foundation for that rather than something different or additional. The forecast suggests that, over the next three years, 0.9 percentage points of the revival in labour productivity comes from capital deepening. The contribution from total factor productivity rises to 0.8 percentage points in the summer of next year and then falls off to about 0.5 percentage points. Since COMPASS[4] suggests a composition effect of 1% in wages would translate into one of 0.9% into GDP, we have either built into the forecast less than full easing of the composition effect or assumed that there are further contributions to falls in TFP[5] growth from unidentified effects which offset these.

Of course, the expectation of continued rapid decline in unemployment, combined with less than spectacular GDP growth, goes with my doubts about the way in which we relate extra hours of work to extra GDP. While I remain a supply pessimist, I should mention one factor which points in the other direction. Slow growth in Q1 has made us wonder, with reason, whether the effects of the low oil price were weaker than we had thought. On the other hand, the IMF's World Economic Outlook points to numbers which are appreciably higher than their first analysis of the issue. It also suggests that oil price falls have a temporary effect on inflation but a longer-lasting and pronounced positive effect on GDP, suggesting strong supply effects. I have found something similar, but I find it hard to understand why there should be more than modest supply effects.

Anyway, the forecast as it is shows unit labour costs rising at 2¾% next year and inflation is kept below target at the end of next year only because of follow-on effects of the exchange rate rise and

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4 MPC Secretariat clarification: the main macroeconomic forecasting model used in the Bank.
5 MPC Secretariat clarification: total Factor Productivity.

decline in oil prices, together perhaps with some movement in margins. My own view is that, even if I put my supply pessimism to one side, this, taken with a very low interest, would naturally point to a rising inflation rate late in the forecast. While I can certainly accept that the future is uncertain, and am as aware as anyone of spurious precision, it also remains my view that failing to communicate this prospect for inflation at an early opportunity increases the subsequent risks of market disruption when it eventually does emerge.

The supply stocktake focused rather than dissuaded me of the view that there is less spare capacity than the Committee's central judgement. The prospect of a sharper fall in unemployment probably points to greater wage pressures than our forecast shows, but overall I do not think policy needs tightening this month. This means that, while I continue to feel that the decision is finely balanced. I am voting for no change to Bank Rate and no change to our asset holdings.

Governor Carney. Thank you, Martin, and we will come back on the productivity compositions, it's quite helpful, in this afternoon's and subsequent discussions.

So, just from my perspective, as you know we will publish our second letter in a likely sequence next week. Inflation remains below target, three-quarters of that undershoot now down to energy, food and other goods prices which in turn reflect low global inflation and the drag on sterling lowering other goods prices. The remaining one-quarter of the shortfall reflects weak services inflation which is also evident in subdued core inflation, likely due to weak growth in domestic costs, particularly wages, obviously, and only modest pricing power for firms. So, in the letter we recap our strategy: first to look through this price-level effect from commodity prices; secondly to recognise some persistence in pass through from sterling to inflation; and thirdly to return inflation to target within two years by generating a pickup in domestic cost pressures, given that there is no trade-off between doing so and the need to support real activity.

Our deliberations in the last few weeks have informed that forecast around three key uncertainties: the prospects for continued demand momentum; the outlook for supply; and the degree of stimulus that we are actually providing.

Let me start with momentum and just a quick recap. We had an initial phase of a recovery that was fuelled by the release of pent-up demand and that was primarily financed through a fall in precautionary savings. As the recovery progressed, income growth has been supported primarily by robust employment growth, only modest wage growth, as we know. The savings rate has continued to fall. Just to give the averages, annualised average growth in Average Weekly Earnings (total pay) has only been 1½% since we regained our pre-crisis peak in the autumn of 2013. In other words, real incomes have been falling. In recent months wage growth has picked up somewhat and there has been continued employment growth, but then, very importantly, we've got the benefit of the terms of trade, so real income growth looks to be the highest since 2007 for this year.

Now, in this regard, weaker-than-expected Q1 does give some pause but, on balance, I join the weight of opinion here in taking some succour from surveys, from consumer confidence measures and expect to see the rebound. But it does underscore the importance of this transition in income growth we are expecting over the balance of the forecast. In other words, less from employment, less of an adjustment – it's not income growth, but – in the savings rate, and more from productivity. We do expect as well, obviously, compositional effects to fade – I won't go into those in detail. So, it reinforces that both our wage outlook and our forecast hinges crucially on the resumption of productivity growth.

That brings me to the supply side. I thought the supply stocktake was quite useful. It confirmed the remarkable positive labour supply shock that's characterised this expansion. That's evident in the participation rates, which have been appropriately adjusted, but if we look at the participation rate at present it's about 1½% above what it would have been if the historic cohort effects had persisted at the pre-crisis levels, as they have in most other economies (in fact in most other economies have been exasperated). And this likely reflects the combination of the impact of both changes to government policy as well as the need to rebuild household balance sheets. If we look at the vintages of our trend hours assumptions we see the supply shock quite markedly. Despite adverse demographics, our projection for this metric has been revised up since the February 2013 Inflation Report by 4½% to the mid of 2016, so it's quite a substantial move, but it is a move that is grounded in what's happening in the labour market. And, I would say, we are finally, somewhat belatedly, recognising significant migration flows, and we are recognising through an upward revision in our population estimates. I support the drop back in that from the recent surge but we will have to consider the possibility of an important latent element to immigration. There is a sort of contestable market analogue, if you will, to immigration which could provide on the margins some flattening of the wage Phillips curve. I am pleased, as you would expect, that we have taken that more holistic approach to slack using both top-down and bottom-up approaches and support the estimate of around 0.5%, with a more reasonable decomposition when we go into the decomposition. The point is, as Kristin said, that the point at which that slack is absorbed is within sight over the forecast and in the second half of that forecast the pace of growth of the economy is likely to be supply-determined, hinging again crucially on productivity growth. We become quite conservative on this, appropriately conservative on this. I am comfortable with the forecast. I'm hesitant to – and it's consistent with what you said, Ben, but it's the converse – I am hesitant to map in real time fully lower productivity growth to lower current demand. So, in other words, a lower productivity path would tend to bring forward in time the point of beginning of normalisation of policy, all else being equal. Lower productivity, lower potential growth would also suggest that the ultimate increase in interest rates, if it's sustained obviously, would be less than otherwise.

That brings me to r* and I will finish around that. Let me just make a comment: nobody said here but outside this room you sometimes hear that policy is described as being exceptionally stimulative. It is not. It is not. We have been growing just above reasonable estimates of trend, core inflation is falling, it's about 1%. Policy has to be forward looking, but we are not running exceptionally stimulative monetary policy in my view. We are running stimulative monetary policy, in my view, which is appropriate to meet our responsibilities.

I thought we had a very good discussion yesterday and this is a discussion I think we should continue. We will all form our own judgements, prompted by David, in terms of where equilibrium rates could be, and I fully accept, as David and others have cautioned, that there can be false precision around it, but there is false precision around everything we do, and it's useful to draw out some of our thinking, be challenged a bit and adjust as appropriate.

My recap of David's exercise is slightly different, which is fair, it's a market – a market interest rate. I would take the starting point probably not at 5%, I would take it at 4½%, which is the average from 2000-2006, the reason being there is an initial build up in credibility that the Committee had to run through. It's also more consistent with the conundrum and other factors that were evident even prior to the crisis. Accounting for the headwinds – and, this is the thing, so that we can drill down in subsequent meetings – but, accounting for the headwinds the way the staff did during the round, I think you can plausibly get a year-three number in the 1 to 2% range for r* quite readily. For example, from the 4.5%, if you take the 90 basis point contribution to the output gap from fiscal and just take that at face value using an IS curve with a slope of – well, there is a bid/offer on that slope between 0.5 and 1, so let's take ¾ – that gives you 120 basis points off r* right there. The mid-point of the staff estimate of the output gap contribution from world demand weakness similarly grosses up to 160 basis points off r*, so that pretty quickly you are down in the 1¾% level for r*.

And there are several reasons why it could be lower. This idea of the financial intermediation wedge, which is something to which I would subscribe, I would view it a little less of being around credit spreads than around liquidity premia and, to just reinforce this, we have pushed liquidity risk into the private sector. It is one of the biggest issues in credit markets and actually government bond markets, is that that liquidity premia has not yet showed up. We expected it to. It shows up intermittently in sort of jump tail liquidity, intra day, but we expect that to show up in a higher equilibrium for liquidity premia. Once monetary policy normalisation begins, now it may not be monetary policy normalisation of the Bank of England, it may be the Fed more than us, we have to in some humility admit that, but certainly by the end of year three one would expect that that process would have happened.

In terms of further adjustments for secular stagnation and other aspects, I think I would join with what Martin said the other day, which is that to some extent we could be double counting this, and you intimated this as well, David, we could be double counting that in lower world demand, if we think about lower global potential is giving a more persistent drag to world demand, then we've got that there. So some discipline around that.

Anyway the point in saying all that is that one can get in that 1 to 2% range quite easily for r*. We have 1.4% terminal at year 3 in the forecast but we have an overshoot so implicitly 1.6%, potentially another hike in there. So, you can see between David's version, what I just did, we are talking about – I will take the outside of my range – 150 to 250 of hikes over the course of 2½ years, so in other words either one a quarter or, actually if you take an extreme of mine, one every other quarter. I am not sure that necessarily changes the lift-off date, though, in part because there is an element of feeling your way and seeing the impact of where you are relative to the r* at that time and where QE decay actually shows up.

I join everyone else in not thinking that the lift-off date is today, but I recognise there are additional uncertainties, it's possible that fiscal policy will be looser than is in the staff forecast. My personal view is that fiscal policy consistent with the Government forecast will have a bigger multiplier impact on the economy, but I could easily be wrong about that. World demand could pick up, we could discover cold fusion, sort of major productivity thing. But, ideally, as we move forward over the course of this year, I think prior to lift off we would want to continue to see a range of indicators moving in the right direction including sustained momentum in this economy above trend, or renewed momentum, I should say, above trend, with still positive leading indicators. Wage growth accelerating, we may need to adjust for composition effects to divine that acceleration, particularly relative to productivity growth. I would note that we have unit labour cost growth doubling over the course of the forecast, which, again, I am comfortable with but want to see moving in that direction. And core CPI ticking up from current modest levels. I don't think core CPI has to get to the Summers "whites of their eyes" but needs to be heading in the right direction.

So, with all that said, I join others in no change in stance to policy, which, just to confirm what I heard, is 9-0 in those terms and two of the members have noted for them the decision was finely balanced. Is that a fair picture? Yes? OK.

We should circulate the statement and then we have to sign off the forecast, presumably, and we have to talk about the Agents. OK, so what I would suggest is we will circulate the statement and then we will move to housekeeping. So we will – with the confirmation of the statement – we will close the transcript. I will just ask if everyone can take a quick look.

OK, everyone comfortable?

Dave Ramsden. Is there any case for mentioning the open letter?

Governor Carney. You mean, that the open letter will be published alongside the Inflation Report, do you?

Dave Ramsden. I realise that's an innovation, people might have forgotten, it's been three months.

Governor Carney. We use the shorthand of the open letter just after…?

Ben Broadbent. After the 13 May, we say "at the same time…"

Nemat Shafik. "Alongside the letter".

Governor Carney. "At the same time the open letter from the Governor to the Chancellor will be published." Instead of describing the whole deal of the letter.

Ben Broadbent. That's enough.

Governor Carney. We use open letter with uppercase, it's a defined term.

David Miles. Mr Governor, so this announcement is for noon on Monday, is that right?

Governor Carney. Yes.

Ben Broadbent. "The Open Letter from the Governor to the Chancellor will be published at the same time." What have you got?

Fergal Shortall. "At the same time the Open Letter from the Governor to the Chancellor will be published."

Governor Carney. Ok, there we go. Treasury speaks. Is that the way it is going to be? Yes. OK, alright. So we will move to housekeeping.