



# Monetary policy and forward guidance in the UK

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## 1. Introduction

For the first time in some years the news on the outlook for economic activity in the UK over the past month or so has been overwhelmingly positive. Business surveys - of both current and future activity - look stronger and consistent with growth at least as high as what we used to think of as normal. Consumer confidence has moved up sharply. Hardly any indicator has failed to improve. This is all encouraging and very welcome. It is likely that the rate of the growth of the economy right now is at - and guite possibly above – the average rate in the 50 years up to the onset of the financial crisis that started in 2007.<sup>1</sup> But this comes after a period of several years of virtually no growth; and those recent low growth years came after a disastrous period in 2009 when output plummeted. So it would be spectacularly misguided to think that some signs of more normal growth mean that the economy is back to normal; and it would be equally misguided to think that if growth were to be near trend monetary policy should be quickly returned to a more normal setting. There are two reasons for that - first, the recent encouraging signs of growth might not prove to be durable (though I think they will); second - and more significant - the economy has been operating far short of its potential and the amount of slack is almost certainly large enough to mean that a sustained period of above average growth is needed to remove it (Chart 1). I believe that the main reason why it is now useful to offer guidance on the future stance of UK monetary policy is to reduce the risk that people believe that monetary policy would be quickly tightened once output began to rise at more normal rates. The nature of the guidance is simple; the message from the MPC is this: So long as inflation pressures don't start heading in the wrong direction, we will not tighten monetary policy until a recovery is strong enough and sustained enough that it has made a meaningful dent in unemployment so that it at least falls to 7 per cent.

A key point here is that focusing just on the rate of growth of output is not a good guide to whether economic activity is running at a pace consistent with the control of inflation. Growth has to be seen in the context of the *level* of activity from which that growth comes. If that level of activity is significantly below a rate consistent with controlled inflation – as I believe is the case in the UK today – then it does not make sense to quickly return monetary policy to a more normal setting once growth moves to more normal rates. One indication that the level of activity is well below what can be sustainable, and consistent with inflation at the target, is that unemployment is far higher than during the long period before the financial train wreck and when inflation stayed close to target. Wage settlements have also been unusually low running beneath the actual (and expected) rates of consumer price inflation for some years. That suggests two things: first that slack it the economy is significant and second that linking the horizon over which an exceptionally expansionary monetary policy continues to support demand to the rate of unemployment has merit.

<sup>&</sup>lt;sup>1</sup> The average rate of growth of GDP in the UK between 1955 and March 2007 was close to 2.8%.



## Chart 1: Evolution of GDP around recessions and banking crises<sup>(a)</sup>

Sources: OECD, Reinhart and Rogoff (2008), Thomson Reuters Datastream and Bank calculations.

- (a) Recessions are defined as at least two consecutive quarters of falling output.
- (b) Covers the G20 advanced economies over the period from 1960 to 2006. For some countries, data are not available back to 1960; for those countries, the sample starts at the earliest available date.
- (c) Big five banking crises are Spain (1977), Norway (1987) Finland (1991), Sweden (1991) and Japan (1992), as defined in Reinhart and Rogoff (2008).
- (d) Zero denotes the pre-recession peak in GDP, or the peak in GDP during the year of the banking crisis, as defined in footnote (c). For the UK quarter zero is 2008 Q1; the final quarter for the UK is 2013 Q2.

Today I want to talk about forward guidance and what I see are its uses. But I want to talk at greater length about the sustainability of a period of more rapid growth and what it might mean for inflation pressures and optimal monetary policy. In doing that I will offer some thoughts on economic modelling and what I see as a deficiency in some of the most commonly used models of the whole economy.

## 2. Forward guidance

Let me start with some observations about the guidance the MPC has recently given. As you will know the essence of it is this: that so long as inflation pressures remain consistent with inflation moving back to the target monetary policy will not be tightened until a recovery has been sustained long enough to take the economy much closer to its potential level of production such that unemployment is significantly lower.<sup>2</sup> To my mind the single most useful thing about giving this guidance is that it makes clear that so long as inflation pressures remain controlled then a return to a more normal monetary policy is conditional on a *sustained* recovery in demand which brings down the rate of unemployment. Growth at average rates, or slightly above them, for a couple of quarters is most unlikely to bring slack in the economy or the level of unemployment down significantly. So the guidance implies that a – very welcome – couple of quarters of normal (or a bit above normal) growth should not mean that policy is about to be tightened. The reason I think guidance is helpful now is that it reduces the risk that a recovery that is still somewhat embryonic is not smothered by the anticipation that a tightening in monetary policy is imminent.

<sup>&</sup>lt;sup>2</sup> For details, see Bank of England (2013), *Monetary policy trade-offs and forward guidance,* London.

Since guidance was announced market interest rates in the UK have moved up – both at the short end of the yield curve and at longer maturities. I suspect this is largely because the weight of money is behind a view that the significant positive news on the economic outlook means that the 7% unemployment level might be reached within around eighteen months. This is rather sooner than I think is likely. It is plausible that the level of productivity – which has fallen enormously relative to the trend we have been on – will bounce back once growth becomes more sustained (See chart 2). If that is so unemployment is likely to fall rather more slowly than would be usual. None of this is certain. We shall see how things play out. Maybe the market moves will prove transient – maybe not. I should certainly be pleased if we saw unemployment fall fast **and** productivity move sharply back towards its trend path because that would mean growth was very strong while inflation pressures might be contained since unit labour costs would be held down by rising output per hour worked.





(a) Market sector output per hour.

(b) The continuation of the pre-2008/09 recession average rate is calculated by projecting forward labour productivity from 2008 Q2 using the average quarterly growth rate between 1999 Q3 and 2008 Q1.

For whatever their reason, the financial market movements in the month or so since guidance was given at the start of August – a period when the news on economic activity and demand in the UK has been consistently positive – have been quite significant. The 1 year OIS rate two year forward is up by around 60 basis points (Chart 3); the sterling effective exchange rate is up by around 4.5% (Chart 4); 2-3 year swap rates (off which most fixed rate mortgages are priced) are up by between 16bp and 33bp (Chart 5).

These movements may not persist, but that is far from clear. Either way, I find it hard to see them as a sign that forward guidance has somehow failed at the outset. Yet some have suggested that forward guidance has backfired because the economy has picked up which means that the slow process of normalisation of monetary policy might have to begin before the middle of 2016, which was the date at which the MPC thought it was likely<sup>3</sup> that unemployment might have fallen to 7%.

<sup>&</sup>lt;sup>3</sup> This is speaking rather loosely. To be exact, the MPC judged at the time of its August Inflation report that the

unemployment rate is as likely to reach the 7% threshold before the forecast horizon in mid-2016 as after it. In other words, mid-2016 was the median estimate of the date at which the unemployment threshold would be reached.





31 Jul 07 Aug 14 Aug 21 Aug 28 Aug 04 Sep 11 Sep 18 Sep

Source: Bloomberg

Last observation: 19 September 2013.





01 Aug 07 Aug 13 Aug 19 Aug 25 Aug 31 Aug 06 Sep 12 Sep 18 Sep

Last observation: 19 September 2013.





I think there is a rather Alice in Wonderland, upside down logic to this. It implies that somehow the MPC find unwelcome signs of a recovery in the economy. I can assure you that we do not! I would be pleased if growth turned out to be strong, productivity improved and inflation moved back towards the target level over the next eighteen months. And if all that happened so that unemployment came down steadily and significantly then I should also be pleased to start the process of normalising monetary policy. No one should want Bank Rate to be virtually zero for any longer than is needed. But it is quite possible to get average growth in the economy for 6 or 8 quarters – and maybe above average growth – and yet unemployment does not fall much because productivity growth is rapid. Not only is this possible, I think it is plausible. Chart 6 below shows just how strongly correlated are the growth in GDP and productivity. It is natural for productivity – a highly cyclical variable – to grow fast once demand picks up after a period of very anaemic growth. If this happened in a way that meant unemployment only fell very modestly it would also suggest that spare capacity might remain substantial and that a very expansionary monetary policy remained appropriate.





Sources: ONS, Bank calculations.

Quarterly data. Annual growth rates on quarter a year ago. Productivity is measured as output per hour.

I don't want to put much emphasis on some of the more bizarre interpretations as to what counts as success or failure of guidance. I think most businesses and households get the basic message – that so long as inflation pressures appear relatively well contained and consistent with a return to target then it is only when there has been a sustained recovery that has eaten significantly into slack that policy will be tightened. And in fact although I think the, relatively modest, tightening in effective monetary conditions since early August – the rise in bond yields, the appreciation of sterling; the increase in money market rates – is not in itself helpful, it is what I would call a benign tightening. By a benign tightening I mean that it is a response to stronger news on economic activity and confidence – and not a malign tightening, when a rise in money market interest rates and in bond yields comes as people expect higher inflation down the road.

So while the tightening in monetary conditions is not a very helpful consequence of the news we have had over the past couple of months the fact is that that economic news has been good. The surveys and the

data on activity have been rather stronger than we might have expected at our August meeting (when we had already factored in some fairly favourable data relative to July). I would guess that right now we might have a rate of growth in the economy of between 2.5 and 3.5%. I think that is unambiguously good. The key questions are whether it can carry on, and if it does, what does it mean for the trajectory of inflation and the appropriate monetary policy.

# 3. The sustainability of a recovery and monetary policy

I think there are good reasons to believe that for an economy that has been in a deep recession there can be multiple equilibrium paths forward. By which I mean that for a given stance of policy there can be different paths for output. On some of them people are more optimistic in a way that is self-confirming. On others, low confidence about activity also becomes self-confirming. I think it is pretty clear that the higher growth, more-optimistic path is better, and indeed much of the academic literature on multiple equilibria in the aggregate economy shows that some paths are unambiguously better than others (they are Pareto superior).

This idea that there are multiple paths for the aggregate economy each of which could be an equilibrium has a long tradition in economics. <sup>4</sup> It is probably the central message of Keynesian economics. Keynes argued that expectations over future returns are volatile and crucial in shaping investment and consumption plans.<sup>5</sup> Swings in households' and firms' expectations can move the economy from a good to a bad equilibrium, and vice versa.

But Keynes' central message – that there can be multiple equilibria – has been lost in the standard models most economists have used over the past 10 to 15 years. These are models that get labelled New Keynesian, but in which assumptions are usually made to ensure that the model has a unique equilibrium for output and employment. Such models also have the property that the real economy tends to be self-correcting – shocks will take the level of output, investment and employment away from its steady path for a while but there are strong forces which attract them back towards the path they were on in the absence of shocks.

I have much sympathy with the idea that the central message from Keynes – that there can be multiple equilibria – has been lost in the standard models most economists, and central banks, have used in recent years. Roger Farmer<sup>6</sup> and Lawrence Summers – amongst others – have made this point and some of the ideas in Robert Hall's recent Jackson Hole paper chime with it.<sup>7</sup>

<sup>&</sup>lt;sup>4</sup> Costas Azarides provides a concise overview in the New Palgrave Dictionary of Economics, Second Edition, 2008. For a discussion from a game-theoretic angle, see Russell Cooper (1999), "Coordination games: Complementarities and Macroeconomics", Cambridge University Press.

<sup>&</sup>lt;sup>5</sup> Much of this literature formalises ideas that are in chapters 5 and 12 of Keynes' 1936, *The general theory of employment, interest and money*, London: Macmillan.

<sup>&</sup>lt;sup>6</sup> Roger E A Farmer (2013), The Natural Rate Hypothesis: An idea past its sell-by-date, NBER Working Paper No. 19267.

<sup>&</sup>lt;sup>7</sup> Robert E Hall (2013), *The Natural Rate of Interest, Financial Crises, and the Zero Lower Bound*, Mimeo.

For much of the time a view of the world that sees it as having strong self-correcting characteristics that generates a path for output which fluctuates around a fairly smooth expansion path may be a reasonable approximation. But when shocks are really big the forces drawing real output and employment back towards the path they had been on – a path that in some sense remains a feasible one despite the shock – can be very weak. So weak in fact that the economy may get stuck on a different trajectory for activity for so long that for practical purposes it might as well be considered as a new equilibrium path that does not converge back to the old one. One might – somewhat loosely – think of this view of the world as one with multiple equilibria.

Let me sketch<sup>8</sup> one version of the multiple equilibria story which seems relevant to the UK economy and to the sustainability of a path forwards from here along which there is much higher growth. It seems sensible to start by considering where we start from.

The financial crisis hit the UK economy hard. In 2008 and 2009 a dramatic rise in uncertainty and a rational fear that future incomes might be much lower sharply reduced the value of assets. That reinforced the pessimistic assessment of people's own finances and of the general economic situation taking their expectations to new lows (Chart 7). Unsurprisingly, consumption spending declined sharply (Chart 8).





Source: Research carried out by GfK NOP on behalf of the European Commission.

(a) The question asks how households expect their personal financial situation to change over the next twelve months.(b) The question asks how households expect the general economic situation to change over the next twelve months.

<sup>&</sup>lt;sup>8</sup> This is very much a sketch – and is not a formal model. But there are formal models consistent with this sketch. For formal models of the link between multiple equilbria and policy see, eg, Cooper (2002), 'Financial Collapse: Lessons from the Great Depression', Journal of Economic Theory 107, pages 159-190, and Morris, Stephen and Shin, Hyun Song (2000), 'Rethinking Multiple Equilibria in Macroeconomic Modelling', NBER Macroeconomics Annual, Volume 15. See also King and Wolman (2004) 'Monetary Discretion, Pricing Complementarity and Dynamic Multiple Equilibria'', Quarterly Journal of Economics, pages 1513-1553.

#### Chart 8: Household consumption and real income



(a) Total available household resources, deflated by the consumer expenditure deflator. Includes non-profit institutions serving households.

(b) Chained-volume measure. Includes non-profit institutions serving households.

Investment fell even more sharply than consumption. The decline in real interest rates on safe assets was not reflected in a fall in the cost of finance to companies so there was no offset to the joint effects of lower demand and falling confidence (Chart 9).

## Chart 9: Business confidence and investment



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

- (a) Aggregate measures of business expectations from the BCC, CBI and Markit/CIPS surveys have been produced by weighting together sectoral surveys using nominal shares in value added. The surveys used are: BCC turnover confidence (non-services and services), CBI business optimism (manufacturing, financial services, business/consumer services and distributive trades) and Markit/CIPS orders (manufacturing) and business expectations (services). The BCC data are non-seasonally adjusted. The aggregate measures have been adjusted to have the same mean and variance as quarterly GDP growth over the period 1999–2013 Q2. Survey indicators have been moved forward one quarter.
- (b) Chained-volume measure. Business investment data have been adjusted by Bank staff to take account of the transfer of nuclear reactors from the public corporation sector to central government in 2005 Q2. Data are to 2013 Q1.

Employment declined, but by less than anticipated, in part because employers were mindful of the costs of rebuilding a workforce later and workers accepted pay freezes to preserve their jobs (Chart 10).





Sources: ONS (including the Labour Force Survey) and Bank calculations.

(a) LFS private sector employment. Calculated as the difference between LFS whole-economy employment and total public sector employment excluding publicly owned English further education corporations and sixth-form college corporations from the ONS's public sector employment release, adjusted to be on a calendar-quarter basis. Data start in 2000 Q2.

(b) Market sector gross value added. Chained-volume measure at market prices.

With activity falling faster than employment, labour productivity declined. Real wages fell, in line with weak productivity (Chart 11). But unit labour costs rose, pushing up inflation (Chart 12).

Starting from such a situation and after a series of such large negative shocks one can envisage how an economy might evolve along two very different paths. One is a 'low confidence, weak growth' path. Investment would remain weak, labour productivity would not pick up, and real wages would stagnate to match poor productivity. Because of weak productivity, unit labour cost growth might continue to be positive, so cost and inflation pressures would not look unusually weak even though the economy is in a deep recession. Falling real wages would not bring forth a return to full employment because demand for labour would not rise enough in an environment where firms expect demand for their goods to continue to be weak. I think this is roughly the path the UK has been on for much of the period since the financial train wreck. But an alternative, self-fulfilling upswing may also be possible. On this path productivity growth is faster, real wages can rise, and rising real incomes can justify greater spending. In this case greater optimism is self-confirming and greater activity generates a sustainable upswing during which productivity is stronger and higher incomes make the expectation of higher demand consistent with household plans.

Inflation pressures generated within the economy may be quite similar along both paths, but for different reasons. In the first, inflation pressures do not fall much because unit labour cost growth is not unusually low; in the second, inflation pressures do not rise since stronger growth itself helps hold down unit costs of production because endogenous productivity growth creates flat costs of production.





Quarterly data. Annual labour productivity growth is real GDP per hour.

Real weekly earnings are calculated from ONS's average weekly earnings (AWE) figures, using the total earnings series deflated by CPI to 2005 prices.





Source: ONS.

The growth rate of unit labour costs are quarterly data, CPI is monthly. Nominal wage growth figures are monthly 3-month averages and they are based on seasonally adjusted total nominal average weekly earnings.

This story – where different paths of output and slack generate rather similar paths for costs and inflation – would mean that the link between spare capacity and inflation would be quite weak. In other words, the Phillips curve would be quite flat. The evidence from a range of countries in recent years is consistent with that. A recent IMF study found that inflation increases almost one for one with longer-term inflation expectations but that a 1pp increase in cyclical unemployment would only lead to a 0.1pp reduction in contemporaneous inflation. Chart 13 shows the distribution of their time-varying estimates of the slope of the Phillips curve for 21 advanced economies. The slopes seem to have fallen to exceptionally low levels.





Source: IMF World Economic Outlook, April 2013

Country sample includes Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom, and United States.

But there is considerable uncertainty around the slope of the Phillips curve. Empirical estimates appear to depend on the precise specification of the equation, the estimation procedure, and the sample period.<sup>10</sup> Multiplicity of equilibria may be one reason behind these difficulties in pinning down the form of the Phillips curve.

In theory there is a very big difference between being in a world in which there are multiple equilibria or in one where the pull back towards a unique equilibrium level of real activity is very weak. But the practical difference may actually be rather small over a horizon of several years rather than several decades. That is important because the relevant horizon for monetary policy decisions is more likely to be several years than several decades.

# 4. Policy implications

What implications does the possibility of multiple equilibria have for monetary policy in the UK? Initially, the main distinction between the paths that I sketched above appears to be one of confidence: in the first, households and firms are pessimistic about their future earnings, whereas they are optimistic in the second. In both cases, beliefs are self-confirming.

I believe that monetary policy can help to kick the economy onto the better output path. In part this could be done by changing people's expectations about the future. Another possibility is to improve the fundamental conditions under which the economy operates. Lowering interest rates would encourage consumption and

<sup>&</sup>lt;sup>9</sup> Source: IMF (2013), 'The dog that didn't bark: Has inflation been muzzled or was it just sleeping?', *World Economic Outlook,* April, Figure 3.6 (2).

<sup>&</sup>lt;sup>10</sup> See, for example, Mavroeidis et al (2013), Empirical evidence on inflation expectations in the new Keynesian Phillips curve, University of Oxford and Harvard University.

investment spending to be brought forward. Those effects can work even if the economy has a unique long run equilibrium because it can accelerate the transition back to it. Whether or not there are multiple equilibria, expectations and confidence can become more positive with a more expansionary monetary policy.

The recent rise in activity and confidence in the UK could be – I believe – sustainable and self-confirming. Until quite recently it seemed to me that we remained on a path much more likely to be a low-confidence, weak –activity equilibrium. I favoured a more expansionary monetary policy to help shift the economy onto a better trajectory. There are some signs that we may now be on such a trajectory – and that is the reason I think keeping Bank Rate and the stock of asset purchases at their current levels is the right policy for now.

I expect stronger growth to be consistent with inflation getting back to target through the course of next year because any impact faster growth might have on some input costs to firms will be offset by stronger – and cost reducing – growth in productivity. What the self-confirming and stronger path for output and confidence does *not* need right now is tighter monetary policy. That is why I think the guidance that has been given on monetary policy is helpful. It says that we will not raise interest rates until unemployment falls to 7%, provided inflation is under control and there are no risks to financial stability.

# 5. Current policy

Let me come back to the current position in the UK and the policy issues. I would like to make 4 simple – indeed obvious – points:

- 1. Signs of stronger activity and confidence are very welcome there is absolutely no double edge aspect to this that somehow comes from a tension with our forward guidance.
- 2. Whether stronger activity means we get to a 7% unemployment rate much faster depends on the evolution of labour supply, and on how productivity responds to stronger demand. For any given path of output the change in unemployment is very sensitive to any change in productivity. If productivity responds positively there may be only a shallow fall in unemployment, despite stronger output growth. The table below illustrates this sensitivity.
- 3. The 7% unemployment figure should be seen as a sign post, and not a preferred measure of slack; it is not a level of unemployment such that once you move below it slack is gone. One very powerful reason for stressing this is that I believe the unemployment numbers mean something rather different to what has been typical in recent decades. This is because so many people are now on part time work and an unusually high proportion of them want to work more. David Bell and David Blanchflower investigated the implications in a recent paper.<sup>11</sup> They define underemployment as a

<sup>&</sup>lt;sup>11</sup> Bell, D N F and Blanchflower, D G (2013), 'Underemployment in the UK Revisited', National Institute Economic Review 224.

situation in which someone is either unemployed, or is employed but would like to increase hours worked at the going wage rate. (They subtract the hours those in employment would like to work less from their underemployment measure.) Bell and Blanchflower note that unlike unemployment, their measure of underemployment has continued to rise during most of the recession. Chart 14 illustrates this. Before the recession, those wishing to reduce their hours were balanced by those wishing to increase their hours, so the underemployment rate tracked the unemployment rate closely. But since the financial crisis, on a net basis, those working would have liked to work more hours. So the underemployment rate exceeded the unemployment rate. This means that there is likely to be more slack in the labour market than the unemployment rate suggests.

Unemployment rate at the three-year horizon (per cent)		Average four-quarter GDP growth over the forecast period (per cent)				
		2.25	2.5	2.75	3	3.25
Average four-quarter growth in productivity per hour over the forecast period (per cent)	2.25	9.6	8.9	8.2	7.5	6.8
	2	8.9	8.2	7.5	6.8	6.1
	1.75	8.2	7.5	6.9	6.2	5.5
	1.5	7.6	6.9	6.2	5.5	4.8
Sources: UNS (including the Labour Force Survey) and Bank calculations.						

Table 1: Sensitivity of the unemployment rate to changes in output and productivity<sup>(a)</sup>

(a) Unemployment rate is a percentage of the economically active 16+ population. GDP is chained-volume measure at market prices. Productivity is whole economy output per hour. This highly stylised table gives a mapping between changes in output and changes in the unemployment rate, highlighting the sensitivity of that mapping to the response of productivity per hour. These numbers are only illustrative and are based on a number of simplifying assumptions about the elasticity of labour demand with respect to output, the extent to which increases in labour demand are met by increases in average hours worked rather than in the number of employees, and the participation rate.

4. The absence of rising inflation pressures alongside the better news on activity gives a compelling case for not normalising policy until recovery has been sustained and a meaningful reduction in unemployment has been achieved.





Source: Bell and Blanchflower (2013).

# 6. Conclusion

I think there are good reasons to believe that for an economy that has been in a deep recession there are likely to be multiple equilibrium paths forward. On some of them people are more optimistic in a way that is self-confirming. On others, low confidence about activity also becomes self-confirming. It seems plausible that you can have quite different paths for activity with very similar paths for inflation - on the low activity paths unit labour costs may be very similar to the high activity paths. Low growth in nominal wages can be offset by low growth in productivity on the low growth path, while higher wages are offset by higher productivity growth on the high growth path. This is a powerful reason why an inflation targeting central bank should do all it can to get the economy onto the higher growth path. I view the main way in which forward guidance can help in the UK now is to raise the chances of staying on that more favourable path. I believe we may be able to achieve that with the current setting for policy. That is a more optimistic position than I took a few months ago when I believed that resuming asset purchases was warranted. The recent rise in activity and confidence has the potential - I believe - to be sustainable and self-confirming. This is not guaranteed. But I am now more confident that we are on path to recovery than at any time since I joined the MPC in the first part of 2009. What a potentially self-confirming and stronger path for output and confidence does not need right now is tighter monetary policy. That is what the guidance that has been given by the MPC is designed to avoid.

Of course we could well have a slide in activity and in confidence for other reasons – there is no shortage of things that could make that happen. But if that is how things play out we can and should do something about it.