



BANK OF ENGLAND

Speech

What can monetary policy do?

Speech given by

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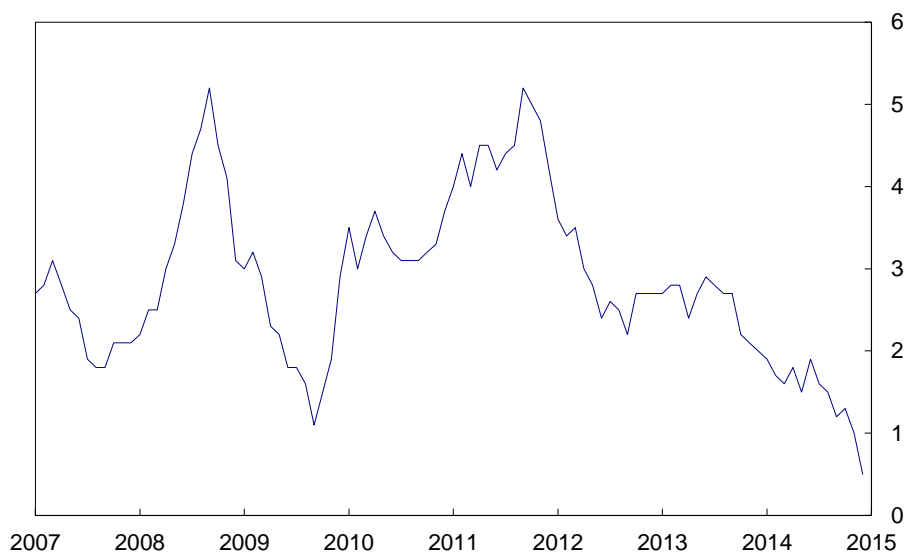
Introduction

What can monetary policy be expected to do? My short answer comes in three parts: First, rather a lot less than many people who view inflation targets as too narrow seem to think; those who want to broaden the aims of monetary policy well beyond inflation to include targets for growth, financial stability and even income inequality may seriously over-estimate what policy can realistically achieve. Second, rather a lot more than is implied by many economic models which take a narrow view of the channels through which monetary policy affects behaviour and as a result make the ability of monetary policy to stabilise the economy precarious. Third, the success of monetary policy in achieving stable inflation (or prices) depends crucially on that being consistent with fiscal policy. Monetary policy cannot be expected to achieve price stability in isolation from things fiscal; monetary policy does not hold all the cards – it cannot trump everything.

One theme which runs through my comments is the gap between how policy makers in central banks view the way in which monetary policy works and the baseline model used by many economists working on theoretical analysis of monetary policy – most of which is done in universities and research institutes. You might say that this is of limited significance. But at the very least it is peculiar. If there was a similar gap between how physicists, biochemists, engineers and medical researchers working in universities and those engaged in policy work in government viewed how the world worked we should be both surprised and I think rather worried. So I think this gap is worth exploring. Along the way I also want to say something more specifically about monetary policy right now in the UK.

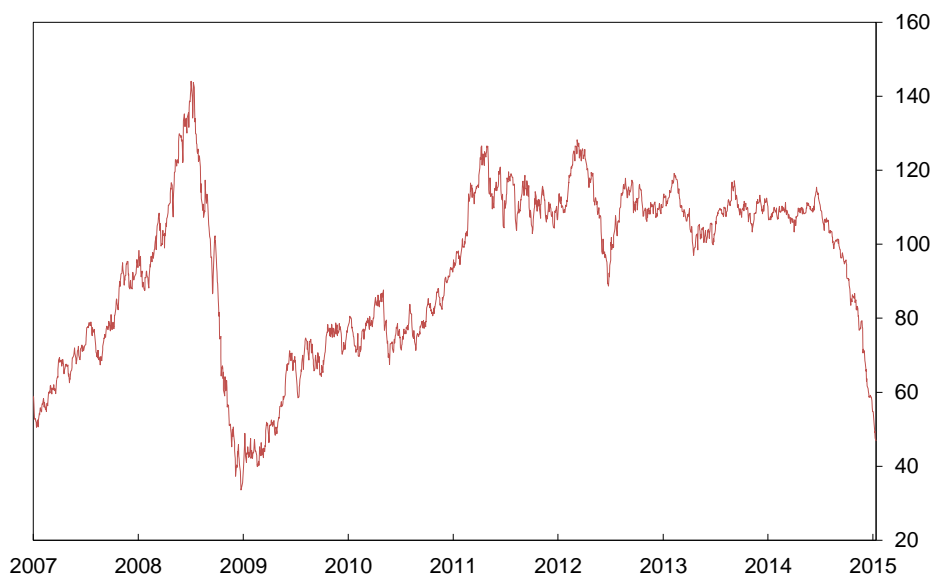
Pretty clearly one thing monetary policy cannot do – and nearly everyone can agree on this – is keep inflation very close to some target level at all times. The inflation target that the Bank of England is trying to hit is 2%, based on the consumer price index (CPI). In the UK now inflation has dropped to 0.5% and it is likely to go lower; in September 2011 it reached 5.2% (Figure 1). In both cases the major factor behind this move in inflation far from target was big shifts in prices set outside this economy, and large changes in oil prices was very significant (Figure 2). In the 12 months to Sep 2011 oil prices rose by around 50%; in the twelve months to January 2015 oil prices fell 50%. One should not expect a central bank to be able to fully offset the impacts of such huge swings in commodity prices on current inflation – and I believe it would be highly undesirable if they tried. This is why having a flexible inflation target which takes account of the inevitability of actual inflation being blown away from target, and allows policy to be set so as to return it to target over several quarters rather than immediately, makes sense.

Figure 1: CPI, % change year on year



Source: ONS

Figure 2: Oil prices since 2007 (\$46.8 as of 12 Jan 2015)



Source: Thomson Reuters

Monetary policy cannot be expected to keep prices very close to some desirable path. Despite this there are some senses in which monetary policy is much more powerful – can work through more channels – than the now standard textbook models of how monetary policy works. There are other senses in which it is much less powerful. I want to explore this and in doing so discuss the role of monetary policy alongside fiscal policy. I also want to consider whether the aims of monetary policy should be widened so that the weight placed upon inflation outcomes is reduced and that on other goals raised.

Monetary Policy: gaps between models and policy makers' perceptions

I want to start by arguing that monetary policy, at least in the UK, works through rather different channels than many economic models assume. I am talking about the sorts of models of the economy now used routinely by academic researchers and taught to students. I think this matters because in the long run how economists in universities think about monetary policy and how they teach students has a big impact on how policy frameworks are developed. Inflation targeting – and long before that money supply targeting which has largely been abandoned – owed a great deal to academic research. It is also striking how many monetary policy makers today have been academic economists at some point in their lives. So I think it matters if there is a bit of a gulf between how policy makers are thinking about monetary policy and how economists at the research frontier see things. It is worth thinking about who has the more accurate view of how the economy works.

Maybe “gulf” is too strong a word; but I do think there are important differences between how policy works in the sorts of models of monetary policy that get published in top academic journals (and taught to graduate students in the top schools) and how policy makers think it works.

One reason for this may be that policymakers need to (at least try) to consider all relevant factors at the same time, whereas models used by academics tend to be laboratories designed for studying a particular phenomenon. But for whatever reason the transmission mechanism of monetary policy seems to run through several quite powerful channels in the UK many of which play little part in standard textbook monetary models; many of these channels do not depend on purely forward looking behaviour. Furthermore I don't think monetary policy loses most of its traction at the lower bound of zero for interest rates, even though many of the more commonly used models suggest that all that is left for a central bank at that point is to say something about future interest rates and hope that this is believed and has some impact on current behaviour. I think that underestimates what a central bank that is able to use its balance sheet to transact in financial markets in large volumes can do. This is not to suggest that the zero lower bound does not matter and that we should not worry about being there. Policy does become much more uncertain at the zero lower bound and for that reason we should be keen to avoid it, a point made clearly by Orphanides and Wieland (2000)).

Later I want to consider a way in many textbook models simultaneously overstate the power of monetary policy by not emphasising the links between monetary and fiscal policy. Monetary policy cannot be used to maintain price stability unless fiscal policy is set in a way which is consistent with that. I think that some of the way in which monetary policy is discussed and analysed hides this fundamental point. This is something that John Cochrane and Christopher Sims have recently emphasised and to which I will return (See Cochrane (2011), (2014a) and Sims (2013)).

The transmission mechanism:

In most models which are in some sense New Keynesian, and whose properties were studied in depth in the key text on monetary policy by Woodford (2003a), monetary policy largely works through a substitution effect on spending summarised in what is often called an IS equation¹. These models have come to dominate the theoretical analysis of monetary policy. In many versions of the New Keynesian model the impact on consumption of monetary policy is central; it works by making forward-looking consumers switch consumption between periods as the real interest rate changes. I suspect that in practice this substitution effect might be pretty weak². The proportion of a typical household's spending that is shifted from one period to the next as expected real interest rates change may be small. In practice in a mid-sized open economy with a huge stock of mortgages that are largely variable rate the mechanisms by which changes in interest rates affect spending go far beyond such substitution effects.

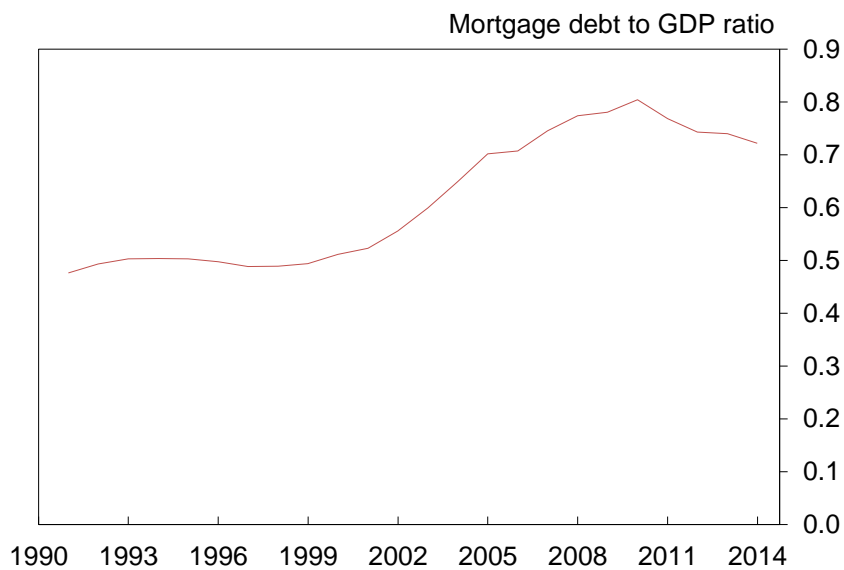
One of the reasons that changes in interest rates affect households powerfully and quickly in the UK is that there is a great deal of mortgage debt whose monthly servicing costs respond fast to changes in Bank of England Bank Rate. Figure 3 shows that the stock of mortgages in the UK is around 70% of annual GDP. There are about 11 million mortgages, so that just over a third of households has a mortgage. Many of those with mortgages have significant debt relative to their incomes and find it hard to borrow more. Most of these mortgages are at variable rates of interest (or on short term fixed rates). So when interest rates change cash flows change quickly, by large amounts and in ways which *force* many households to change spending. None of this reflects changes in expected real interest rates prompting households to *decide* to vary the timing of spending. These are cash flow effects, not substitution effects.

Of course there are also millions of people with bank deposits who have a positive cash flow effect when the interest they earn goes up. But there is an asymmetry here: people with substantial debt (mortgages) are far more likely to face credit constraints than people with significant deposits, so the cash flow effect for them will be much larger.

¹ Cochrane notes that it would be more appropriate to call this an inter-temporal substitution equation.

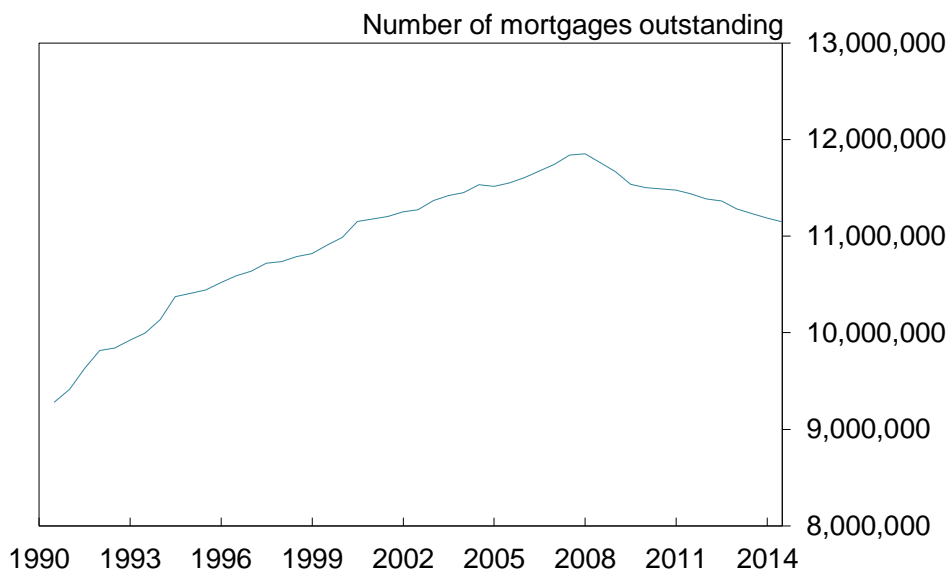
² Hall (1988) focuses specifically on the issue of inter-temporal substitution. He found that it is close to zero. Several subsequent studies argued that Hall's finding is not robust. But studies have consistently shown credit restrictions bind on a significant proportion of households for whom inter-temporal substitutability is likely to be very weak. Attanasio and Borella (2011) find considerable heterogeneity across UK households in inter-temporal substitutability and that for many households it is close to zero. There is a large literature in asset pricing that tries (and mainly fails) to use consumption growth to explain observed asset prices.

Figure 3: Stock of mortgage debt to GDP



Source: ONS

Figure 4: Number of mortgages outstanding



Source: Council of Mortgage Lenders

In textbook models nearly all the power of monetary policy runs through substitution effects: shifts in real interest rates (the interest rate minus expected future inflation) affect expenditure by changing the terms of trade between spending now and in the future; all of this is intrinsically forward looking. But it seems to me that a lot of the force of monetary policy (conventional and unconventional) runs through mechanism that are

not purely forward looking – e.g. cash flow effects of change in mortgage rates³ (a conventional monetary policy mechanism) and operations like the Funding for Lending Scheme making funding available at lower cost in potentially stressed times (an unconventional policy mechanism).

One of the reasons such effects are absent in many theoretical models is that they require modelling different sorts of agents, instead of using the convenient single agent assumption. They also require analysis of credit restrictions and of other problems in financial markets. All of this is difficult to do, so it is not surprising that many of these features are only recently being considered. Models of the New Keynesian type are increasingly coming to reflect these factors which may well significantly affect the policy messages that come from these models. This is one strength of the New Keynesian framework – it is not a straightjacket.

The (almost) exclusively forward looking nature of New Keynesian models is also a potential source of intrinsic instability and of multiple equilibria. Furthermore, the way monetary policy operates in forward looking New Keynesian models is dramatically different from older-generation, backward-looking models – a point made by Cochrane (2011) and by King (2000). Although it is convenient and common to describe the way policy works in these models in familiar terms – interest rates go up, real rates are higher, spending gets squeezed and that drives inflation lower – in fact the mechanism in the theoretical models are in many ways quite different. And in these forward looking models there are in general multiple equilibria, or indeterminacy. Cochrane argues that the means by which a specific equilibrium is singled out as the solution in these models are hard to take seriously. They can rely upon people figuring out that unless prices move to a specific and unique level today the policy that the central bank will follow will cause inflation to become completely unstable.

Cochrane, I think rightly, says that this is an implausible description of people's behaviour and of central bank policy. But he argues that the purely forward looking nature of these models – which is what makes them susceptible to multiple possible paths or indeterminacy – is something to be preserved. But whether that is a feature of the real world is the more important issue here. I rather doubt that some of the most significant ways in which monetary policy affects behaviour – spending, wage settlements, labour supply – depend very much on expectations⁴. This is an empirical question, and one that has a rather important bearing on how stable economies are. Cochrane notes that old-style, backward-looking Keynesian models are typically don't suffer from the multiple equilibria that generally exist in forward looking models. He takes no comfort from this because he seems sceptical that agents do anything other than solve forward looking dynamic optimising problems. But I think there is a lot of evidence that a good deal of behaviour is not very forward looking. Credit restrictions can mean that this is in no sense irrational. Learning behaviour is also

³ Auclert (2015) shows that the effects of monetary policy due to households' balance sheet exposures to interest rate changes are a significant channel in the US, where mortgages are predominantly long term fixed-rate. His model predicts that the effect of interest rate changes on spending would more than double if mortgages were predominantly variable rates, as is the case in the UK.

⁴ However, the fact that not all behaviour depends on expectations is quite consistent with forward-looking behaviour being very important.

surely not irrational – but it also imparts a degree of backward-lookingness to the economy (the past matters because it is where people learn from) and this can make the indeterminacy property of purely forward looking models go away⁵.

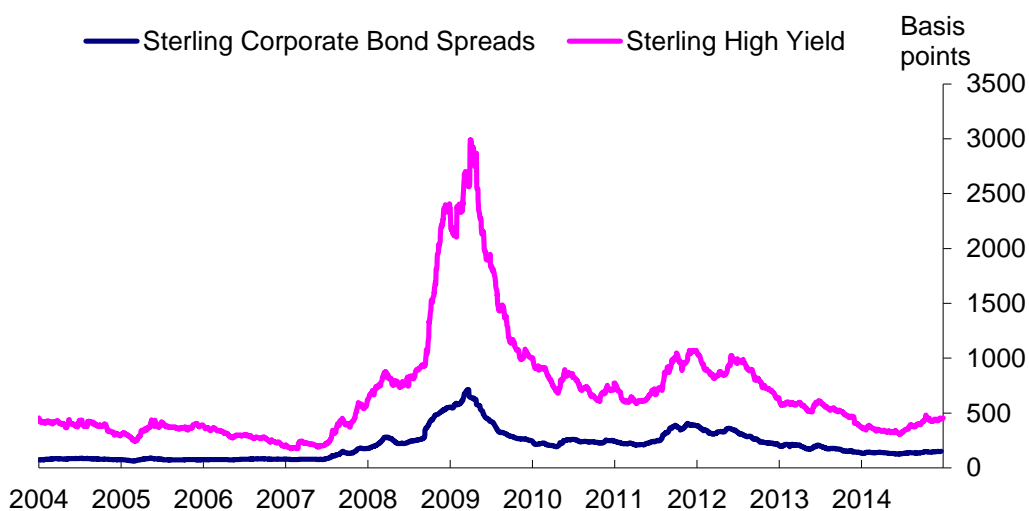
The Zero Lower Bound and Unconventional Monetary Policy in the UK

Once you take seriously the idea that significant parts of the transmission mechanism of monetary policy don't work through substitution effects, and may not solely reflect the expectations of forward looking agents, that can affect how you see unconventional monetary policy. I think it is natural that people who view monetary policy as primarily working through its impact on expectations are sceptical about the effectiveness of central bank asset purchases (QE). In an influential paper Eggertsson and Woodford (2003) argue that asset purchases by the central bank are in themselves neutral and that such unconventional policy can only have an impact if it changes perceptions about future (conventional) policy. This means that unconventional policy is rather ineffective and as a result getting stuck at the zero lower bound (ZLB), where the policy rates set by the central bank cannot be lowered further, is potentially very damaging. Some New Keynesian models predict dramatically bad outcomes at the ZLB where fiscal multipliers can become enormous and where promises to follow time-inconsistent monetary policy are the best strategy for a central bank to follow⁶.

⁵ McCallum (2009) argues that problems of indeterminacy and explosiveness in New Keynesian models of the economy can be resolved if one requires that any expectations equilibrium should be learnable.

⁶ Cochrane argues that these properties of some models at the ZLB depend on expectation dynamics that are somewhat ad-hoc and not very plausible. Cochrane's critique is that the paradoxes of the NK models around the ZLB (discontinuities with respect to the degree of price stickiness; very large and unstable multipliers for fiscal policy or forward guidance), that have been shown by others before him, are a consequence of ad-hoc equilibrium selection mechanism that is used. He shows that there is a continuum of equilibria which can be indexed by any assumption on either the inflation rate at the end of the ZLB (typical choice, including Eggertsson & Woodford (2003)) or at the beginning of the ZLB. He shows that the typical choice (assume the inflation rate will be at steady state when ZLB period ends) is what leads to having drastic deflation and recession, which will be more drastic the more flexible prices are (whereas the limit of flexible price equilibria shows no deflation – this is the discontinuity). These equilibria also display very high and unstable effects of forward guidance (sometimes extending the commitment to zero rate just a little can lead to high inflation instead of deflation) and large fiscal multipliers even for purely wasteful fiscal spending ("breaking windows and replacing them", the paradox of toil). Equilibria which instead are built around an assumption about initial inflation, or requiring bounded initial inflation jump (what he refers to as backward stable solution) lead to none of these paradoxes, and are in some ways more sensible than the standard solution. He shows how just assuming a specific Taylor-type rule will not eliminate this multiplicity. This is essentially another manifestation of his more general critique of Taylor rules (Cochrane 2011).

Figure 5: Sterling corporate bond spreads 2003-2014

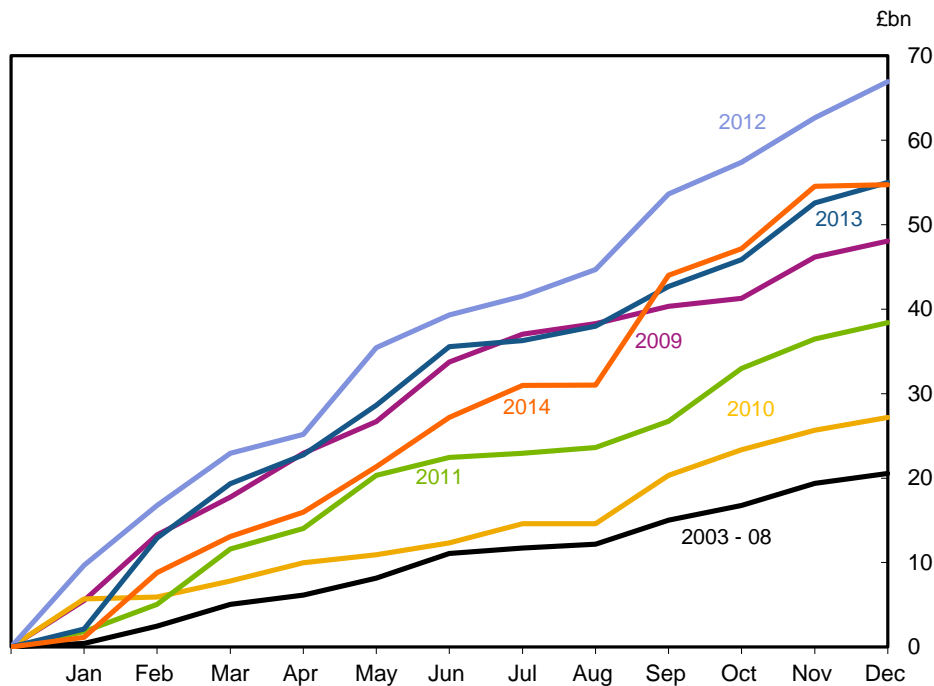


Source: Bank of America

I think there is a good deal of evidence that in the UK unconventional policy – asset purchases but also other ways in which the central bank used its balance sheet (e.g. the FLS) – did have effects that went beyond their indirect impact of expectations about future interest rates. So called portfolio balance channels seem to have been significant (See Joyce et al (2011), Chodorow-Reich (2014) and the special edition of the *Economic Journal*, November 2012 for a survey of evidence.) In a recent paper Joyce et al (2014) show that large scale purchases of UK government bonds by the Bank of England led to a significant switch in portfolios towards sterling corporate bonds⁷. The UK corporate bond market was almost completely dysfunctional in early 2009 when the Bank of England began asset purchases. Over the course of 2009 yields in that market fell substantially and companies issued significant quantities of new bonds as investors switched from gilts to sterling corporate bonds (Figure 5 and 6).

⁷ See also the summary at <http://www.voxeu.org/article/new-evidence-portfolio-balance-effect-qe>

Figure 6: Cumulative gross issuance of bonds by UK PNFCs^(a)

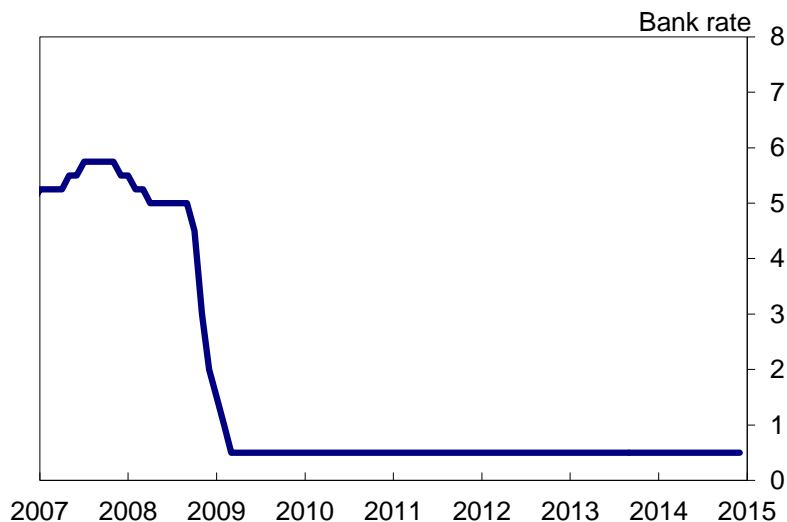


Source: Dealogic and Bank calculations.

(a) Issuance by private non-financial corporations (PNFCs) where the issuer's country of incorporation and that of any parent or guarantor are the United Kingdom. Includes investment-grade and non-investment grade bonds. Data are subject to periodic revisions. 2003-08 is an average over the period.

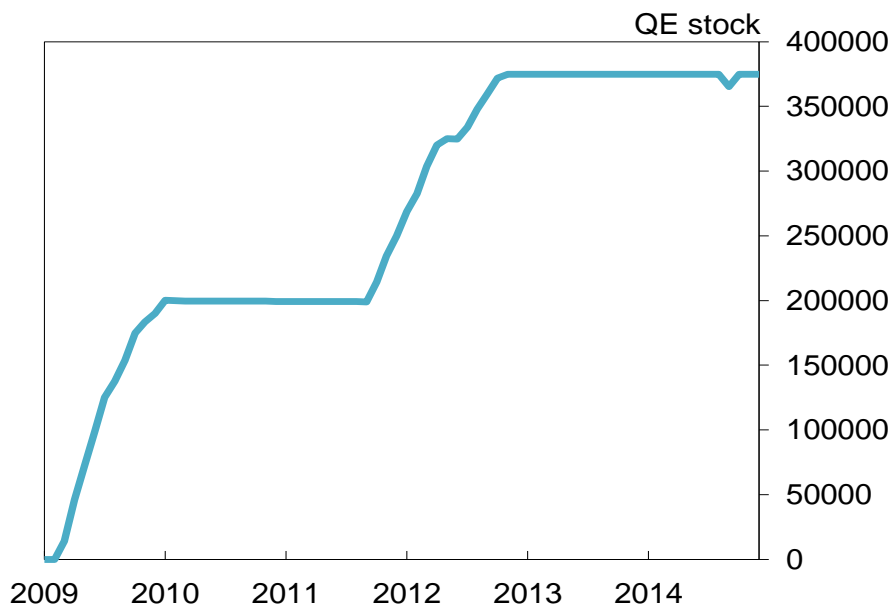
There is another sense in which the way things played out in the UK with unconventional monetary policy at the ZLB was different from theoretical models. In many models the ZLB is a big problem because it is likely to be a constraint when there is an undershoot of inflation which can drive up real interest rates in a way that can be unstable. But in the UK the need to make monetary policy more expansionary than a (virtually) zero policy rate was greatest during a period when current inflation was more often than not significantly above target, particularly in 2011 and 2012 when QE operations were being actively undertaken and Bank rate was close to the ZLB (Figures 7 and 8).

Figure 7: Official Bank Rate



Source: Bank of England

Figure 8: Stock of Asset Purchases



Source: Bank of England

And now – with inflation significantly under target – I believe both the need for, and quite possibly the effectiveness of, unconventional policy is lower than it was when inflation was much higher. Unconventional policies, which involve balance sheet changes at the central bank, have potentially less impact now than a few years ago because they are likely to have had a larger effect when financial markets were dysfunctional (see Miles and Schanz (2014)). This was certainly the case in 2009 when large scale asset purchases began in the UK. Financial market conditions look more normal now and bank balance sheets have been

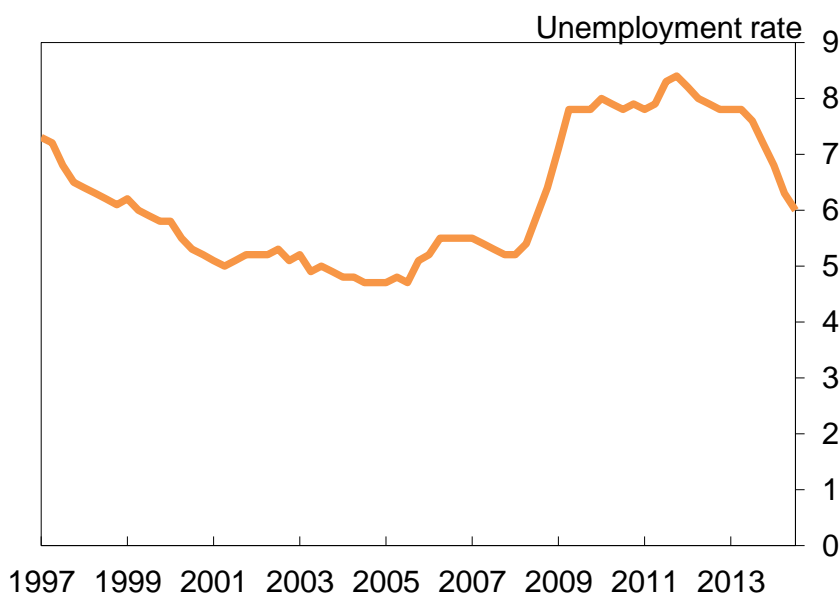
strengthened. Growth is steady, unemployment has fallen and employment growth seems to have some momentum (figure 9 and 10). While UK inflation is far lower than it was when many assets were being purchased through QE, and is now well under the target level, that is much less a reflection of deflationary forces at work on domestic economy and much more a reflection of big changes in commodity prices along with a response to a period early last year when sterling rose.

Figure 9: Real GDP Growth



Source: ONS

Figure 10: Unemployment



Source: Labour Force Survey

So although actual inflation rate is now very low, and might temporarily dip down to zero and turn slightly negative, this is a long way from the sort of deflation trap that is really worrying. This fall in inflation, rather than increasing the burden of debt in a way that can become self-reinforcing in a downwards spiral, is boosting the disposable income of households and making the burden of debt easier.

I do not want to suggest that either inflation below target or the ZLB are not problems. The current level of inflation is not ideal. The MPC's target is an annual CPI inflation rate of 2%; below target inflation is, on the whole, no better than above target inflation. We should not want interest rates to be stuck near the ZLB in part because having to rely on very uncertain impacts of unconventional policy is to be avoided. Nor does the current inflation level solely reflect falling energy prices. Domestic costs are rising unusually weakly. Unit labour costs – wages per unit of output – are fairly flat as recent rises in productivity roughly match wage increases that are themselves still well below pre-crisis average rates.

But I don't think this really adds up to a strong case for looking to monetary policy to boost demand and prices right now.

First debt deflation risks are not well measured by what is happening now to CPI inflation. Debt deflation is a position where people's ability to manage debt is eroded by their nominal incomes falling relative to the value of their debt. But the main reason CPI inflation has fallen quite sharply in recent months – and is likely to fall further – is that we have seen big falls in the world price of many commodities and some delayed effects of earlier strength in sterling. The falls in some prices – energy and food – are far more likely to have increased the ability of households and firms to manage their existing debt than to have made it more difficult.

I also don't take too seriously the risk that people will postpone spending because they think prices might be slightly lower a year from now. In fact many people would not postpone spending if they thought prices might be 1% lower next week.

So I don't think that lower inflation than seemed likely 6 months ago means that more expansionary policy is now needed; but it does mean that there is no great urgency in starting the process of moving monetary policy back towards a more normal setting.

I have taken a bit of a detour here by focusing on the current position of the UK economy. I have strayed away from my main theme which is the way in which theoretical analysis of monetary policy is in important respects different from how things seem to policy makers. Let me just review where that argument got to.

Summary so far: Exclusively forward looking models ignore some of the most significant ways in which policy affects the economy. Those forward looking models can also suffer from indeterminacy. They also tend to make the ZLB a big problem. But there are many ways in which policy works that is not just through expectations. This makes economies more stable than the pure forward looking models imply and may also

mean that ZLB problems are less severe and that unconventional monetary policies (balance sheet policies) can have traction.

Fiscal and monetary policy – symbiosis and consistency

I have argued that the way in which the economy responds to monetary policy may be more powerful than implied by many models and not exclusively dependent on forward looking behaviour. As a by-product, problems of indeterminacy and instability may be less significant. But there is an important sense in which monetary policy can do less than many models imply. The key point I want to make here is a very simple one: that monetary policy (the central bank setting interest rates) will not succeed in maintaining price stability over the medium term unless fiscal policy is set in a way that is consistent with that. One can make the same point in another way: monetary policy has fiscal consequences and unless fiscal policy is set in a way which is consistent with the aim of monetary policy those aims will not be met. This is not the same thing as saying that monetary policy has to be subordinate to fiscal policy.

When a central bank changes the short term interest rate there is a change in the cost of servicing some of the liabilities of the public sector – and if banks hold a great deal of interest bearing debt at the central bank which pays a rate linked to the monetary policy rate this rise in the cost of servicing some public sector liabilities is both obvious and may be significant. Somewhere down the road there may need to be a change in fiscal balances to adjust for this shift in the cost of servicing public sector liabilities⁸. The fact that the shift in future policies is likely to be limited (because the shift in interest rates by the central bank may itself be limited and only last for a relatively short period) and may come very many years down the road should not make us forget this.

The ability to use monetary policy to help hit a price objective in a world where there are nominal public sector debt that the government will not default on requires that at some point down the road fiscal surpluses will be earned so as to match in present value the real value of debt generated by the level of prices today. If that is not true then ultimately something has to give: either the price level needs to move, possibly far, away from the path consistent with the price objectives the central bank is trying to meet, or else there will be default.

The necessity of there being consistency between monetary policy, aimed at controlling inflation, and fiscal policy becomes very obvious in extreme cases. Hyperinflations nearly all have a fiscal problem lying underneath what on the surface can look like a monetary policy failure. (See Sargent (1983); Sargent, Williams and Zha (2009) and Capie (1986)).

⁸ I use the word 'may' because the change in interest rates by the Central Bank could be a response to a shift in the economic outlook that has an offsetting impact on future fiscal balances.

Cochrane makes the point in a pithy way:

“...we can read the inflation target equally as a commitment by the Treasury to fund debt at the targeted level of inflation, as it is a commitment by the central bank to target that level of inflation via interest rate policy.” (Cochrane, 2014a).

As Cochrane notes, in a fundamental sense, one can view inflation targets as fiscal commitments: money and fiscal policy must always be consistent. The government needs to be willing to set fiscal policy in a way that is consistent with whatever inflation targets that the central bank has been given.

I agree with Cochrane that this point is somewhat obscured in much of the way that monetary policy is modelled in the New Keynesian framework and in which it appears that the central bank is able to set policy to hit an inflation target by unilaterally setting an interest rate⁹. The key point that fiscal policy has to be adjusted so as to be consistent with the resulting path of prices and interest rates is often relegated to a footnote¹⁰.

In the extreme, if the government ultimately has to have central bank monetise debt and set policy with the aim of avoiding default rather than hit an inflation target then monetary policy will be ineffective in controlling inflation.

This is not where we are in the UK. The primacy of the inflation target – which has wide support – is crucial. I believe it is what has allowed monetary policy in recent years to be hyper-expansionary while inflation expectations have remained anchored, even when actual inflation rose to above 5% in 2011. QE was not done to fund a deficit that the government could not otherwise manage. It was *because* of the inflation target, not *in spite* of it, that large scale asset purchases by the Bank of England were made. But asset purchases, indeed monetary policy more generally, do have fiscal consequences; the net proceeds of the

⁹ Woodford himself is careful to pay attention to the importance of the fiscal-monetary links. Woodford (2003b), for example, has a detailed discussion of the significance of inconsistencies between fiscal and monetary policy.

¹⁰ The Fiscal Theory of the Price Level (FTP) explores the consequences of the inter-temporal Euler equation that determines the price of real and nominal government debt to analyse the consequences of non-Ricardian behaviour. By this is understood the possibility that the government will not adjust future tax and expenditures to balance its budget (including the cost of paying its debt). If the government is seen as non-Ricardian then the price level will have to adjust to satisfy the equilibrium condition for the price of real bonds. In this sense, it shows how a government that is not fiscally solvent, but issues in domestic currency can default through inflation. In this setting, monetary policy cannot avoid high inflation (or hyperinflation), it can at most influence the timing. This is one aspect of fiscal dominance.

The non-Ricardian assumption is the main reason it is somewhat non-mainstream: even though we often observe imbalanced fiscal positions across countries and time, typically market forces and political pressure will force the hand of governments to adjust fiscal policy towards Ricardian behaviour. Nevertheless, there are historical examples that are thought to be good examples of the FTP at work: the hyperinflation in Latin American countries in the 80s (Sargent, Williams & Zha 2009), or in Europe in the 1920s (Sargent 1983) as a result of unsustainable fiscal dynamics following WWI.

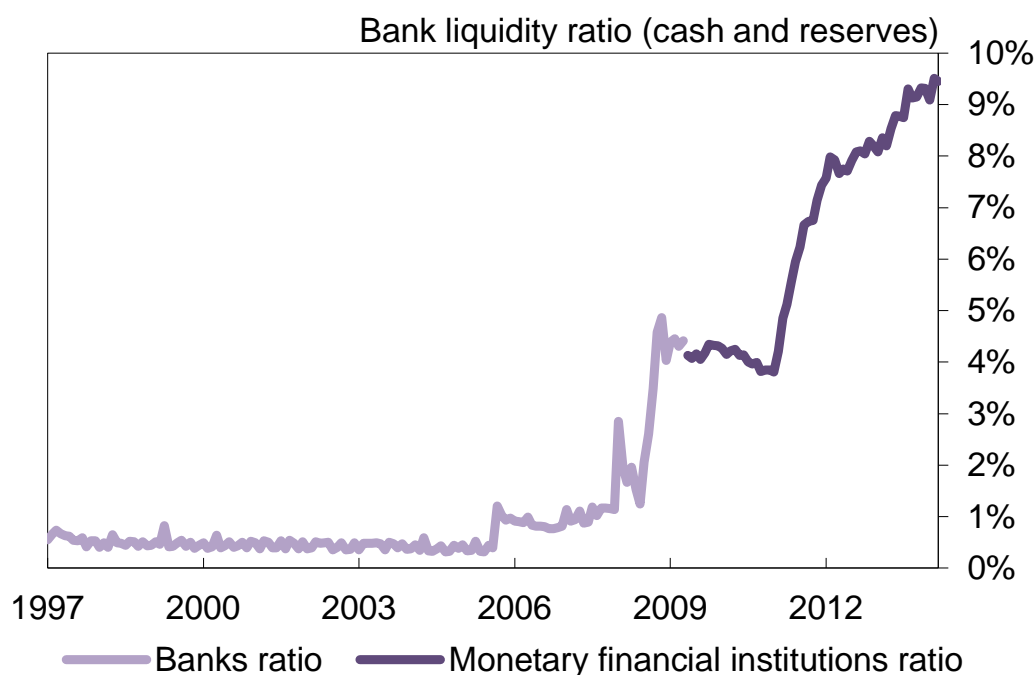
Brazil for example, attempted a number of drastic policies to end hyperinflation from mid 1980s to 1994, including price controls and confiscation of saving accounts to limit demand. But it was only when the Real was introduced along with fiscal adjustment and reforms, including hard wired laws with strict penalties, that inflation was finally brought under control.

The large fiscal costs associated with the Global Recession have raised the prospect that fiscal concerns could limit monetary policy (Sims 2013), not least because the dramatic increase in central bank balance sheets introduces a direct link between monetary and fiscal policy.

QE are flowing through to the government accounts and have effects on the fiscal balance. Government will ultimately adjust other elements of taxes and spending to account for this.

The link from monetary to fiscal policy prompts a question about the unwinding of QE. Sometimes this is put – rather indelicately – as: Does the Bank of England have to hold on to the stock of gilts it has acquired because the government cannot afford to have it do otherwise? If the answer to that were “yes” it would mean that the Bank could not simultaneously be expected to hit an inflation target. A government which gives the central bank an inflation target is saying it will not rely on the central bank committing to hold its debt. That is quite different from saying that the Bank of England will sell all its gilts and that its balance sheet will go back to where it was before the financial crisis. I think it is very likely that the Bank of England balance sheet may stay very much larger than it was.

Figure 11: Cash and reserves held by monetary financial institutions (as % of total £ assets)



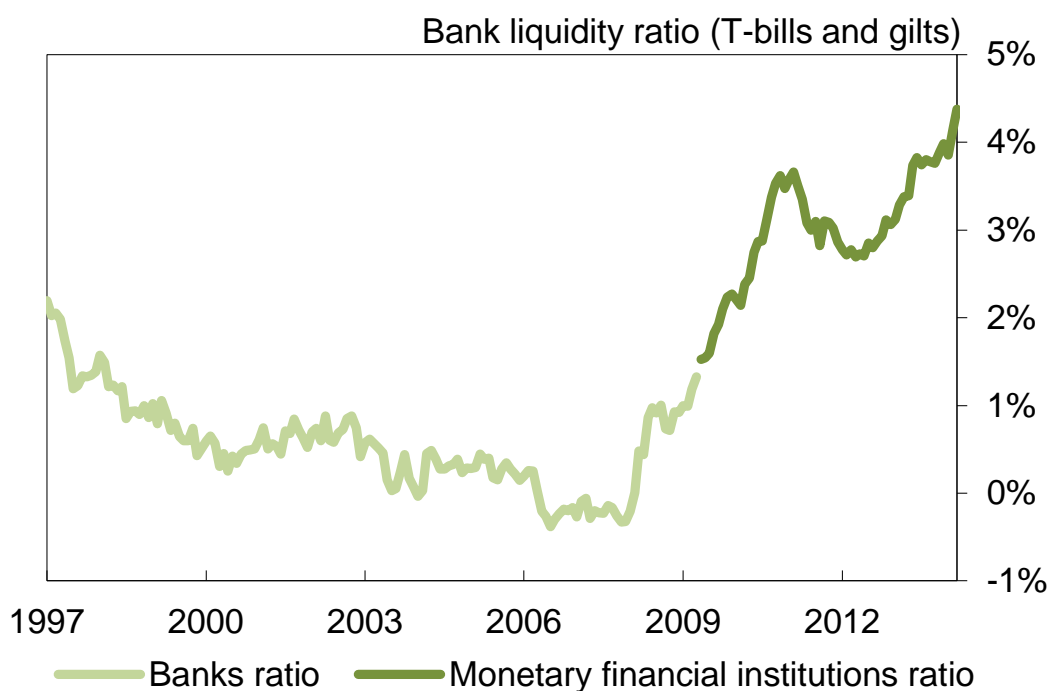
Source: Bank of England

Figure 11 shows how small was the stock of cash and reserves held by UK banks before the financial crisis; holdings of Treasury Bills and gilts was also small (figure 12). I strongly suspect that banks in the UK will wish to hold a far greater stock of very liquid assets in the future – which is the main reason why the Bank of England’s balance sheet will not shrink back to its 2007 level.

There are two ways in which banks could end up holding lots more of the most liquid assets: in reserves at the Bank of England or as direct holdings of Treasury bills and (probably short maturity) gilts. Both are

currently interest paying and at a rate either identical to (or very close to) Bank Rate. Fiscal decisions are relevant here – if funding is skewed to the short end (the government issues lots of Treasury Bills) then reserves may end up smaller and the maturity of debt comes down; debt issuance then has to be quite active in the sense of rolling over a lot of Treasury bills. If the government sticks to a strategy of issuing predominantly longer term debt, not using Treasury Bills as a main source of funding, and banks hold a high proportion of their most liquid assets as reserves at the central bank then the central bank balance sheet will be bigger and it will likely wish to hold more government bonds. Either way the government has effectively funded itself at short term interest rates.

Figure 12: Treasury bills and gilts held by monetary financial institutions (as % of total £ assets)



Source: Bank of England

But, crucially, this is not because there is no other way to fund the government – it is because of a need for the banking system to hold more short maturity, very safe assets with near certain value against a huge stock of liabilities which are also predominantly very short maturity.

That still leaves free a decision on the appropriate level of Bank Rate that is not driven by considerations of the funding cost of government but instead by the remit which government has set the central bank. In the UK the government has accepted that any fiscal consequences of the setting of monetary policy to hit the inflation target are something it will need to adjust to. There is neither a subordination of monetary to fiscal policy nor a subordination of fiscal policy to monetary policy: ultimately the government has to set fiscal

policy in a way which is consistent with the aim it has given the central bank which, in the UK, is described in the remit of the Bank which has at its centre an inflation target.

Broadening the aims of Monetary Policy

I said that the remit the Bank of England has makes the inflation target central. The Bank has an inflation target. It is a flexible one which means that the path back to the target if inflation is pushed away from it should not be so steep as to cause output and employment to move sharply away from sustainable values. Some people seem more keen than I think is wise to move away from the centrality of the inflation target. But I think *flexible* inflation targeting is a good way to run policy. There is no sense in which pursuing such a target pays no attention to real things – growth and employment. Those real things are key drivers of inflation pressures – it was precisely because growth was anaemic, output had fallen and slack in labour market was significant that it was right to run very expansionary policy in UK even when (as in 2011 and 2012) current inflation was high, because likely future inflation rates were significantly lower.

There is no inconsistency in setting monetary policy with regard to real things and having a remit in which an inflation target is central – provided that the target does not require you to act like an inflation “nutter”, a technical term which I would define as wanting to bring inflation bank to target in the shortest possible time frame¹¹. Clearly the remit of the Bank of England allows flexibility – inflation (actual and expected) is permitted to deviate from target if it avoids undesirable volatility in output and employment. This is symmetric flexibility; it was used by the Monetary Policy Committee in 2011 and 2012 when current inflation was high but expected to fall; it is being used now that current inflation is well under target but expected to gradually rise.

Flexible inflation targeting is not inconsistent with attaching significant weight to short run fluctuations in output and employment. But having some target for growth or employment over the medium to longer term as part of the remit for the central bank is a different matter. I think there is little to be said in favour of that. Either those other targets are consistent with an inflation target – in which case achieving the inflation target is likely to require that output and employment over the medium term do not drift away from them – or they are not. If they are consistent then there is nothing much to be gained by adding them to the inflation target¹². If they are not then we have set the central bank objectives which cannot be reconciled; that is quite different from short term trade-offs between bringing inflation back to target quickly at the potential expense of weaker activity, trade-offs which a flexible inflation target allows the central bank to address.

¹¹ Walsh (2014) shows in a recent paper that even though “multiple distortions argue for multiple objectives in principle, standard open economy models imply that the central bank should focus overwhelmingly on stabilizing domestic price inflation”. He concludes that “the class of models commonly used for monetary policy analysis implies inflation volatility is very costly, so relatively little weight should be put on other objectives”. These are good reasons why the aims of the central bank should be centred around an inflation target.

¹² If there were multiple paths for output and employment consistent with stable prices (or an inflation target) there might be a case for specifying which of such paths monetary policy should aim to achieve. That would suggest a form of lexicographic targeting: aim for a price objective and if there are multiple paths for output and employment consistent with that choose the one with highest activity.

Conclusions:

Monetary policy has both more and less influence than is often thought and is implied by much economic research.

More in the sense that many formal economic models (particularly those thought to have the most consistent and logical underpinnings) have a rather narrow range of channels through which policy works; in the UK many of the most powerful impacts of change in interest rates have no counterpart at all in these economic models. Nearly all roads lead through impacts on expectations in these largely forward-looking models. In practice there are some more brute force effects of policy which don't require bringing agents expectations along with them: you have to pay the mortgage even if some change in Bank of England policy has not had much impact on your expectations.

Less in the sense that monetary policy has to be chosen by government – and implemented by the central bank – in a way that is consistent with the fiscal aims it has.

The case for broadening out the aims of monetary policy to go much wider than an inflation target is not very compelling.

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