



BANK OF ENGLAND

# Speech

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## Monetary policy and financial dislocation

Speech given by

David Miles, External Member of the Monetary Policy Committee, Bank of England

To the Royal Economic Society, London

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## Introduction

It is a tired cliché to say that we live in interesting times. And it is, like most clichés, used far too often; I suspect that humans are inclined to think that the times they live in are far more interesting than other humans who are alive later will think. But the economic times we are living through will surely be judged to be worth remembering by anyone who has even a passing interest in such things for several generations to come. One thing that makes them (uncomfortably) interesting is the long period that the richer countries have now lived with the repercussions of the financial crisis. That crisis began in August of 2007, became intense in the autumn of 2008 and has not subsided yet. It is over four years since Northern Rock failed in the UK – that is today about as far in the past as the outbreak of the First World War was from the signing of the Armistice.

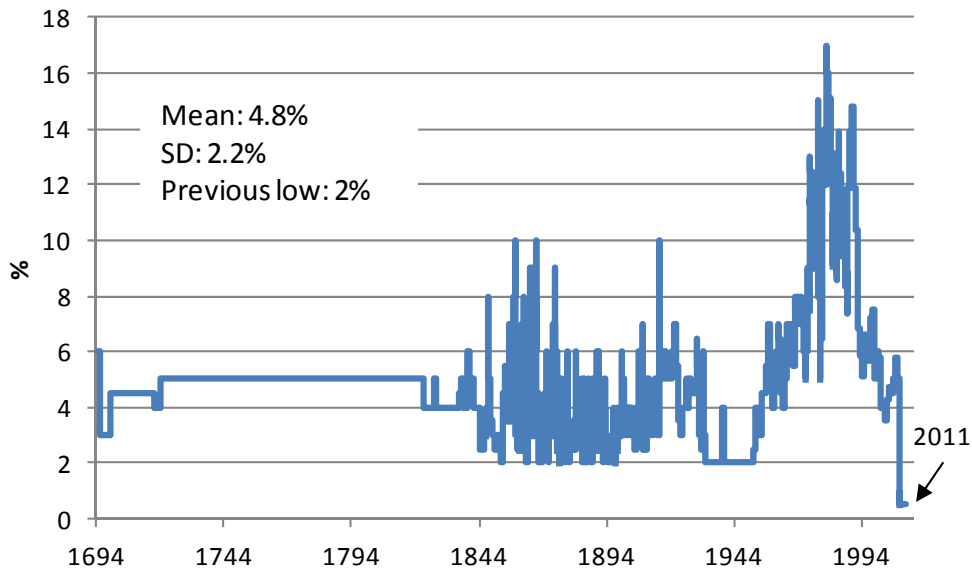
It might have become easy to forget just how interesting monetary policy has become here in the UK because until last Thursday policy has been unchanged for nearly two years. It was in early 2010 that the last asset purchases were made. Further purchases of £75bn were started earlier today. It was more than two and a half years ago in March of 2009 that Bank Rate was last changed. Judging by money market interest rates and yields on short dated government bonds the market expectation is that Bank Rate will not change for many months yet.

What is extraordinary about this – and what future generations will find interesting – is not so much that Bank Rate has been unchanged for many consecutive months. Rather it is the place at which monetary policy has been left – in other words it is the level (both of interest rates and of asset purchases) that has been extraordinary rather than the fact that those settings of policy were, until now, not changed for many months.

The degree to which this is unusual is self evident when we look at Bank Rate (Figure 1). We have a record of Bank Rate since 1694, when the Bank of England was founded. Over those 317 years the average level of Bank Rate is close to 5% (the mean is 4.8%). The standard deviation of the level of Bank Rate is 2.2%. With Bank Rate at ½% it sits at a level that is about 2 standard deviations below the average. Of course, Bank Rate is not normally distributed – it does not fall below zero. But the log of Bank Rate might follow a distribution that looks somewhat more normal (Figure 2). Today the log of Bank Rate is about five standard deviations below the mean of log Bank Rate.

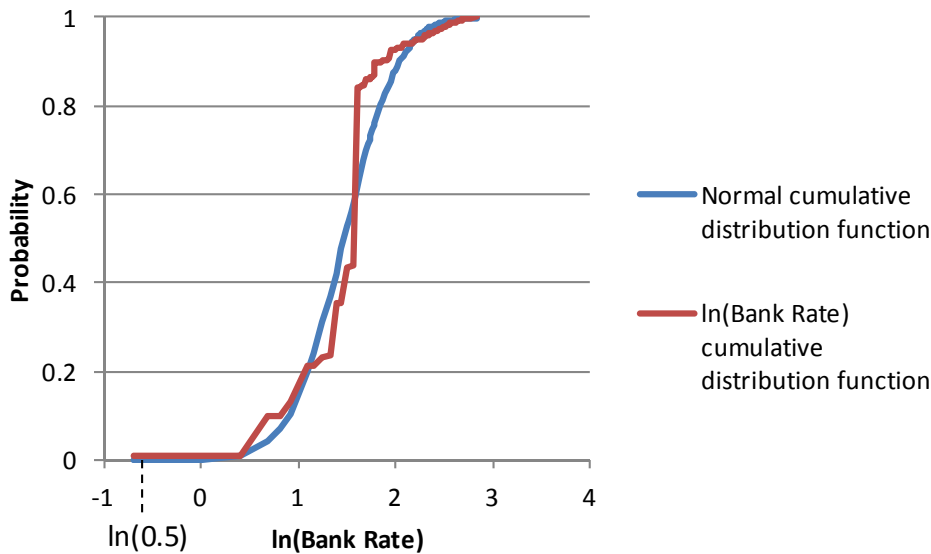
But you don't have to believe that Bank Rate is really log normally distributed for it to be blindingly obvious that where we have been for the past two and a half years is very unusual. Before 2008 the lowest level to which Bank Rate had ever fallen was 2%. What is not so unusual is that Bank Rate should be unchanged for a few years. As I have observed before Bank Rate was not changed for just over 100 years between April 1719 and June 1822 – but Bank Rate was then left at 5%, not ½%

**Figure 1: Bank Rate**



Note: Depicted are the Bank's respective key rates over time: bank rate, minimum lending rate, minimum band 1 dealing rate, repo rate, and official Bank Rate.  
Source: Bank of England.

**Figure 2: Cumulative distribution of log Bank Rate**



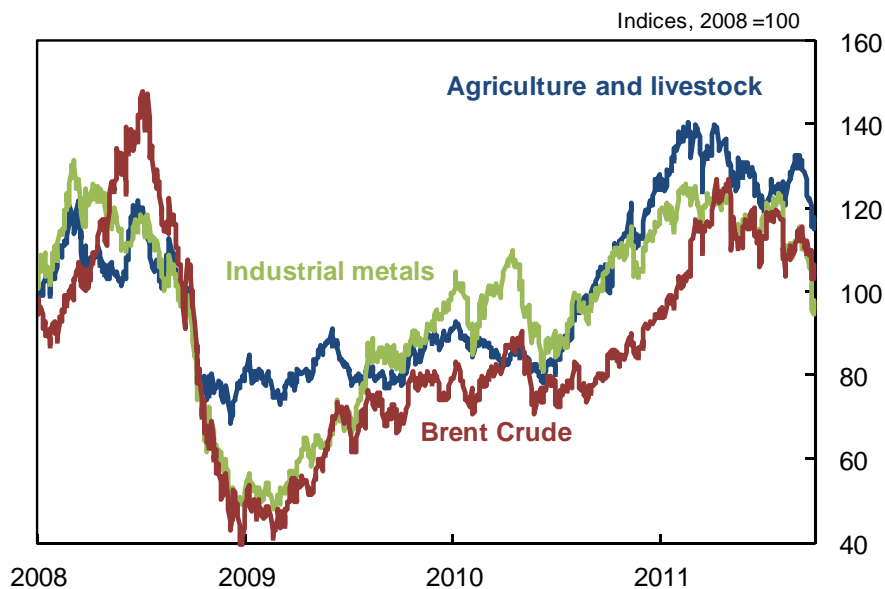
Source: Bank of England

I think it has been right to set monetary policy at its most expansionary setting in the history of this country. This may seem a bizarre thing to say when for much of the past two years inflation has been above the target level of 2% and when it is quite likely that in the very near term it may go yet higher and get to around 5%. But setting monetary policy in the light of the current inflation rate – rather than in the light of where inflation pressures might be when a change in policy made today will have its effect – cannot be sensible. And it is not what the Monetary Policy Committee does. A better strategy is to do one's best to understand

why inflation is where it is and make an assessment of where inflation pressures will be over the next few years. And for some time it has seemed likely that those pressures will fall away because the underlying domestically generated forces driving up prices are weak and the factors that are responsible for taking today's inflation rate to around 5% are not likely to be repeated over the next few years. I will not spend time this evening elaborating on this. It is set out in detail in the Bank's August *Inflation Report*. An updated assessment of those inflation pressures will be published in a few weeks with the November report.

A lot has happened since the August report and much of the news on demand, output, business confidence and employment prospects right across Europe and in the US has been negative. Until recently there has been less news on near term cost and price pressures – though commodity prices having held up through the summer did fall in late September (Figure 3).

**Figure 3: Commodity prices**



Note: The agriculture and livestock and industrial metals series are calculated using S&P (dollar) commodity price indices.  
Sources: Standard & Poor's and Thomson Reuters Datastream.

I thought it was right to maintain the stance of UK monetary policy through the first half of this year and into the summer. But since August, the news on the economic outlook has been overwhelmingly negative. The chances that inflation further ahead will sit below the target level have risen. In the light of that the decision was taken last week to increase the size of the asset purchase programme. Tonight I want to consider what the impact of further asset purchases might be. There are three reasons for addressing that issue today. First there has now accumulated a good deal of evidence (from the UK and from the US) about what the impact of asset purchases made a few years ago has been, and it is worth assessing that. Second, there is also a good deal of scepticism – even from those who believed that asset purchases in the UK in 2009 did some good – that it can be effective today. Third, and most obviously, further asset purchases are now – starting this week – about to be made. I want to look at what we might have learned from past asset purchases and what we should infer about the impact of more asset purchases now.

Let me start by briefly describing the environment in which the decision to make further asset purchases was made, and how it had changed over the summer.

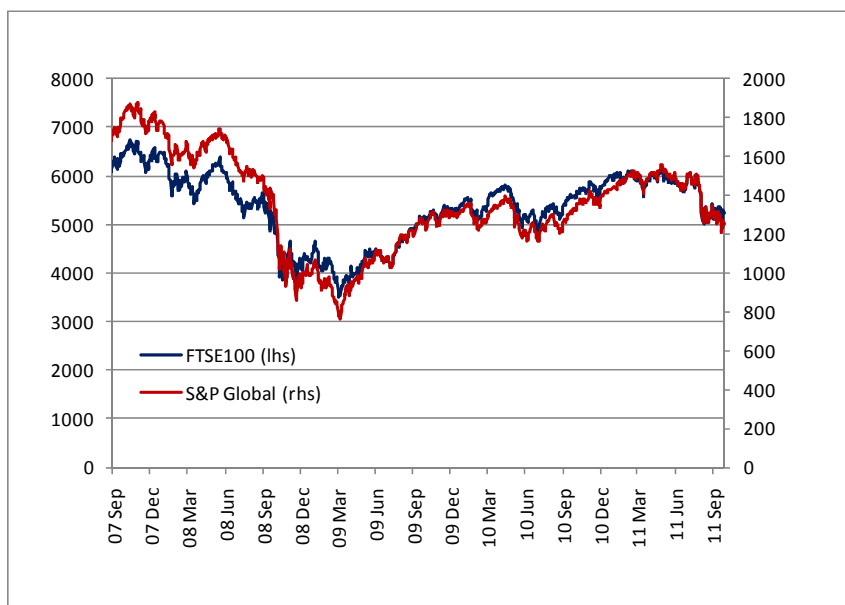
### What has changed?

When the Bank published its latest *Inflation Report* two months ago, it seemed to me that the main drivers of growth would be net trade and private investment. It also seemed to me plausible that the cost of bank loans would gradually fall back as remaining stresses with banks' funding continued to lessen.

Since then, bad news has arrived on a number of fronts. The international growth outlook has worsened, reflected in declining business confidence in a number of countries. In the UK, output surveys have deteriorated markedly, suggesting that GDP might be broadly flat in the fourth quarter. Employment growth has slowed and the unemployment rate edged up to 7.9% in the three-months up to July. Consumer confidence has fallen. Surveys of investment intentions point to only weak growth in capital spending ahead.

Financial market sentiment deteriorated markedly over the past couple of months; it remains exceptionally volatile. Equity markets have fallen substantially, globally and in the UK: by the end of September, the S&P Global Index had declined by around 15%, and the FTSE 100 by almost 12%, from the levels of July (Figure 4).

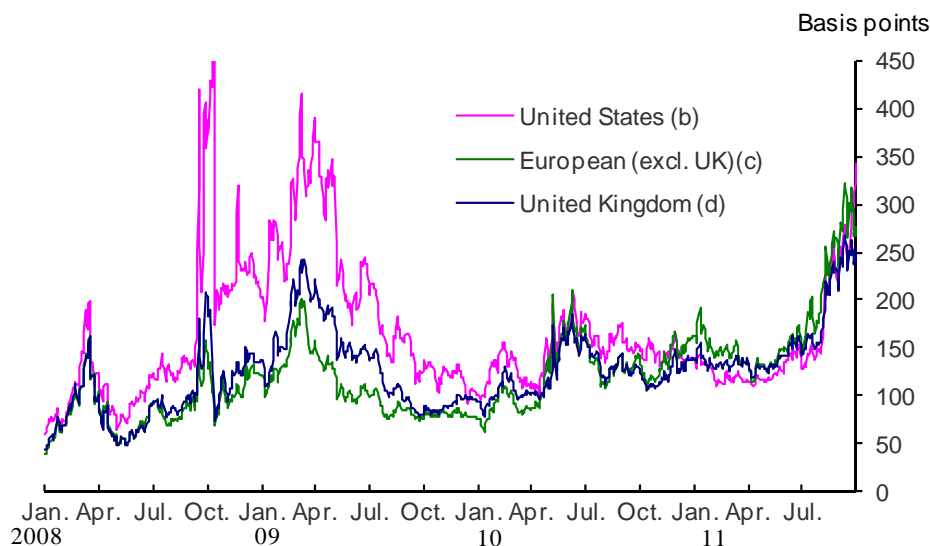
**Figure 4: Global equity price indices**



Source: FTSE and S&P.

Gross issuance of corporate bonds by UK private non-financial corporations (PNFCs) almost stalled over the summer months. Major UK banks' CDS premia, one indicator of banks' wholesale funding costs, have almost doubled, from around 150bp at the end of July to around 250bp at the end of September (Figure 5).

**Figure 5: Selected international banks' CDS premia<sup>(a)</sup>**



Source: Markit Group Limited.

(a) Unweighted averages of five-year, senior CDS prices.

(b) Average of Bank of America, Citi, Goldman Sachs, JP Morgan Chase & Co and Morgan Stanley.

(c) Average of BBVA, BNP Paribas, Crédit Agricole, Credit Suisse, Deutsche Bank, Santander, Société Générale, UBS and UniCredit.

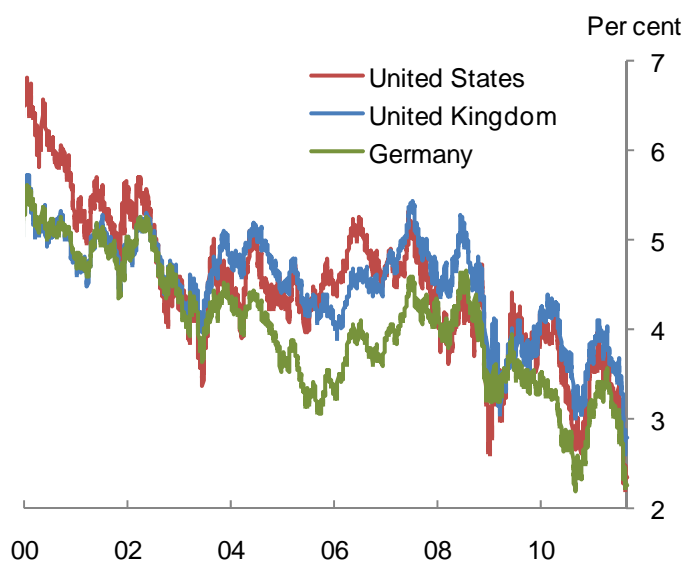
(d) Average of Barclays, HSBC, Lloyds Banking Group, RBS and Standard Chartered.

In part, this may have been a reaction to the perception that demand had weakened at a global level. But fiscal developments also continued to influence financial markets. Existing concerns about the sustainability of fiscal positions and the implications for banking sectors spread to some euro-area economies that had previously been less affected.

Investors tried to reduce their exposure to risky assets and sought refuge in 'safe haven' assets. Ten-year nominal gilt yields fell to historically low levels (Figure 6).

Whether the marked deterioration in financial markets and in business and consumer optimism will last is hard to know – conditions have certainly been volatile from one week to the next since August. But monetary policy needs to be set in real time. We cannot stop the clock. Right now the likely future levels of UK inflation pressures look to me materially lower than in August. Monetary policy should respond to that. The question I want to consider is what can be expected to be achieved through more asset purchases.

**Figure 6: International ten-year nominal government bond yields<sup>(a)</sup>**



Source: Bank calculations.

(a) Spot interest rates derived from the Bank's government liability curves.

### **The effects of the Bank of England's asset purchases during 2009/10**

When the Bank started to purchase assets in early 2009, its objective was the same as for a cut in Bank Rate. At the time, the MPC was concerned that demand for goods and services would fall so much behind supply that inflation would fall below target towards the end of the Bank's forecast horizon. Asset purchases were designed to stimulate demand so that the Bank could meet its inflation target.

Since then, economists in the Bank have undertaken several empirical studies of the impact these asset purchases had on gilt yields, the price of risky assets, output and inflation. A recent article in the Bank of England's Quarterly Bulletin summarises the results of these studies.<sup>1</sup> One of the most direct ways of assessing the impact of asset purchases is by looking at changes in asset prices around the dates at which purchases were announced. Table 1 shows estimates of these announcement effects in the middle column, and changes over the entire period of asset purchases in the right column.

While prices of assets respond quickly to news, demand and inflation adjust far too slowly to allow their reaction to be captured by event studies. Economists at the Bank have therefore used a variety of other empirical methods, for example estimating vector auto-regressions (VARs), to evaluate the impact on output and prices. The key difficulty is to separate the effect of asset purchases from that of other factors. But a range of estimates – based on different assumptions designed to control for the impact of other factors – suggested that the asset purchases had about the same effect as a cut in Bank Rate of between 150bp to 300bp, increasing GDP by about 1.5% to 2%.

<sup>1</sup> See Joyce, M, Tong, M, and Woods, R (2011), 'The United Kingdom's quantitative easing policy: design, operation, and impact', *Bank of England Quarterly Bulletin*, pages 200-212.

**Table 1: Event study: Asset Purchases in 2009/10**

<b>Asset</b>	<b>Event study: Change around announcement</b>	<b>For reference: Change 4 March 2009 – 31 May 2010</b>
Gilt yields	- 100bps	+ 30bps
Corporate yields (investment grade)	- 70bps	- 400bps
Corporate yields (high yield)	- 150bps	- 2,000bps
FTSE All-Share	- 3%	+ 50%

Source: Bank of England (2011).

The difficulty these studies face is that the Bank has not made large scale asset purchases during most of its recent history. It is therefore not possible to find time series of big asset purchases, inflation, and output with sufficient variability to identify the impact of large-scale purchases on the wider economy directly. Instead, the studies proceed in two steps. They first estimate the impact of asset purchases on bond yields and money aggregates, for example using the announcement effects presented in Table 1. And then they rely on the typical effect of changes in bond yields and money stocks on inflation and GDP – based on many decades of data. This allows one to come up with estimates of the overall effect of asset purchases on the wider economy.

Joyce et al (2011) describe the methods used in more detail. The results are summarised in Table 2.

**Table 2: Estimates of the macroeconomic impact of QE, peak impact on the level of output**

<b>Method</b>	<b>Level of GDP (per cent)</b>
<b>SVAR</b>	1.5
<b>Multiple time-series models</b>	1.5
<b>Monetary approach</b>	2
<b>Bottom-up approach</b>	1.5-2.5
<b>Range across methods</b>	1.5-2

Source: Bank of England (2011). Range across methods calculated using the mid-point of the reported range for the bottom-up approach.

In the first set of models – referred to as SVAR and time-series models – the authors took as given that asset purchases reduced gilt yields over the respective model's forecast horizon by 100bps. In another ('monetary approach'), the authors assumed that asset purchases increased money supply (M4) by between about £80bn and £200bn. In the final approach ('bottom up'), the authors first assessed the increase in asset prices associated with QE, and then used standard models to relate the associated increase in household and corporate wealth to changes in consumption and investment.



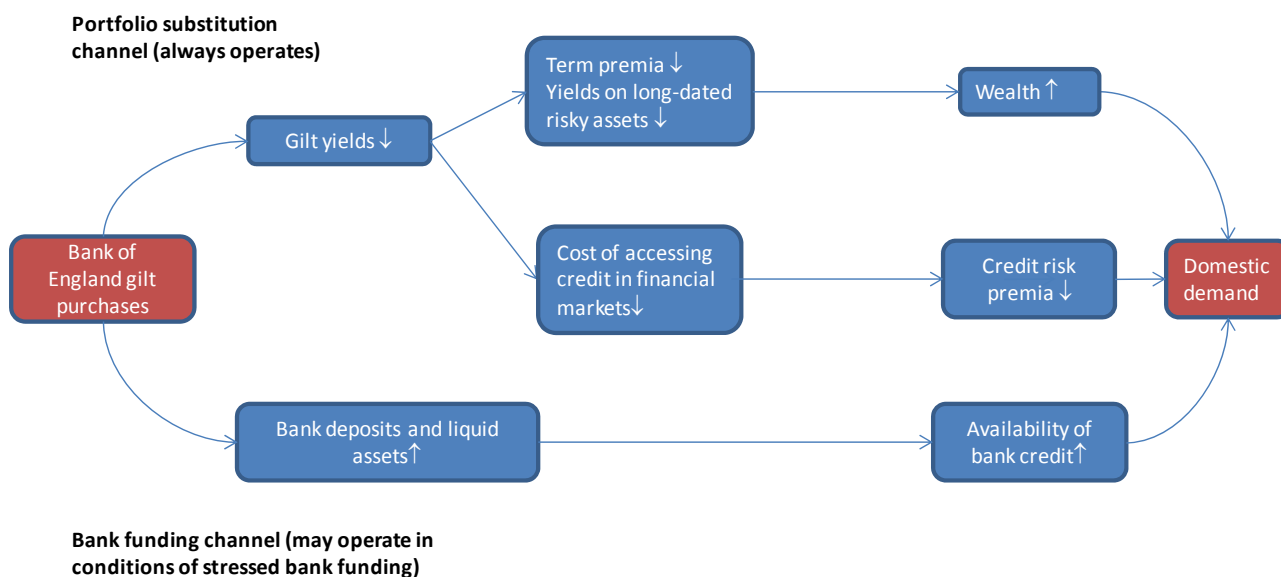
So these estimates reflect results from applying a wide range of econometric techniques. I should say here I am not someone who readily believes the apparently precise results of regressions. This is probably because I have in my life run lots of regressions. This is something which is relatively very easy to do but because of that it can make a mockery of the claims for statistical significance of many reported results. So I am rather sceptical about the reliability of many econometric estimates – though it is reassuring that a range of very different techniques (various time-series models and event studies) give broadly similar results for the impact of the £200 billion of asset purchases made so far in the UK. But I would certainly take these results much less seriously if these were just apparent empirical regularities for which there was no plausible economic mechanism that could have generated them. Let me put the point in a less negative way. I believe that there are very good reasons for thinking that purchases of government bonds in exchange for money created by the central bank will have an impact on a range of asset prices and will influence the cost and availability of credit to the private sector. I will explain some of the mechanism through which I think this works in a moment. Most of them reflect portfolio re-allocations made by those who sell bonds to the Bank of England and which trigger impacts in a wide range of markets beyond the gilt market.

My belief in this set of mechanisms was not based on the results of an econometric exercise – it was not driven by simulation results from an estimated VAR. It was based on the basic idea of portfolio theory which suggests strongly to me that many of those who sold fixed income instruments with significant duration to the Bank of England in exchange for cash would subsequently set in train a series of further transactions that would influence a wider set of prices and also create flows of funds that could change credit conditions.

What I found hard to assess was how powerful those mechanism were. Was £200 billion of gilt purchases the equivalent monetary easing of cutting Bank Rate by 100bp or 500bp? In Bayesian terms, I had a strong prior that the impact of purchases on the scale made in 2009 was significant, but I had relatively flat priors about just how significant. The econometric evidence – some of which was not strongly based on a particular model of portfolio re-allocation and some of which was more closely tied to portfolio theory – has helped me sharpen my estimate of the impact of QE. But for me without the prior belief that there were plausible economic mechanisms that generated such impacts the weight I would place upon the econometric evidence of those effects would have been substantially less.

So what are the elements of the transmission mechanism of asset purchases? In my view, there are two, somewhat distinct (though related) channels. The first channel operates through the impacts on a range of asset prices of the portfolio rebalancing in the non-bank private sector that central bank purchases generate; the second is via potentially alleviating bank funding constraints should they exist. The first would operate in most circumstances and I think is generally likely to be the more important. The second channel might operate only in conditions when banks face funding problems. Asset purchases ease credit conditions and stimulate demand, possibly via both channels but more consistently via the first. Figure 7 provides a stylised overview of them.

**Figure 7: Key channels for the impact of the Bank of England’s gilt purchases on domestic demand**



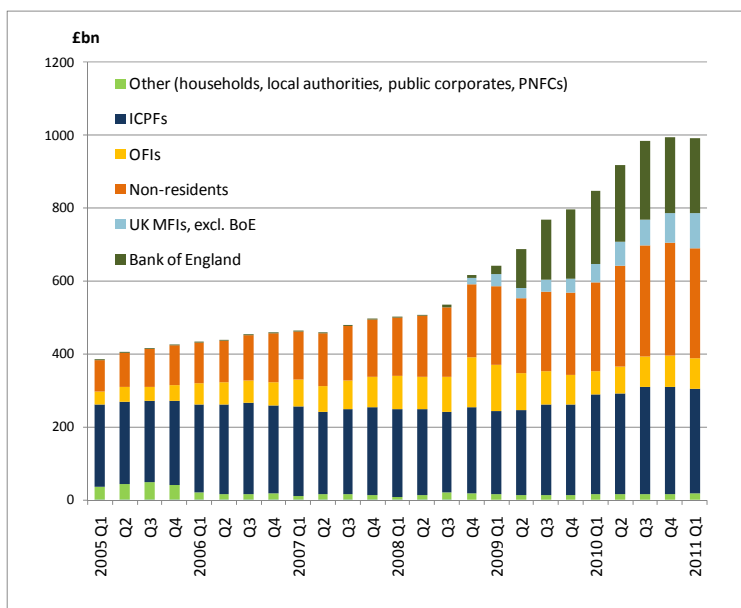
Consider first the **portfolio substitution channel**, shown in the upper half of Figure 7. The Bank of England’s purchases of gilts reduce the free float of gilts while increasing central bank reserves of banks. It is likely that most gilts are purchased from non-banks (since that is where most gilts are). Initially most of the proceeds from the sale of gilts show up in bank deposits. If gilts and bank deposits were perfect substitutes when interest rates are close to zero that might be the end of the story – in terms of portfolio rebalancing for the non bank private sector – and it is not clear that gilt yields would react. The economy would be in a liquidity trap: in that situation additional supply of money does not lead to a reduction in bond yields or in any other yields. So people who sold gilts would swap them for bank deposits; and banks might just passively accept higher reserves at the Bank of England.

But bank deposits and bonds are not perfect substitutes. There are at least two (related) reasons for this, one related to preferred habitats, and the other to the pricing of duration risk.

When investors sell gilts to the Bank of England, they initially exchange a long-dated asset – the gilts – for a short-dated asset: bank deposits. Some investors may not care much about the resulting change in duration in their portfolio. But I believe that they would be in a minority. Many investors in gilts – primarily pension funds and insurance companies – have long-dated liabilities and prefer to match these liabilities with equally long-dated assets.<sup>2</sup> Figure 8 shows that pension funds and insurance companies own about 30% of gilts. These investors are likely to purchase other long-dated assets, such as corporate bonds, to restore the duration of their portfolio

<sup>2</sup> One also speaks of investors having preferred habitats in certain classes of assets.

**Figure 8: Stocks of gilt holdings by sector<sup>(a)</sup>**



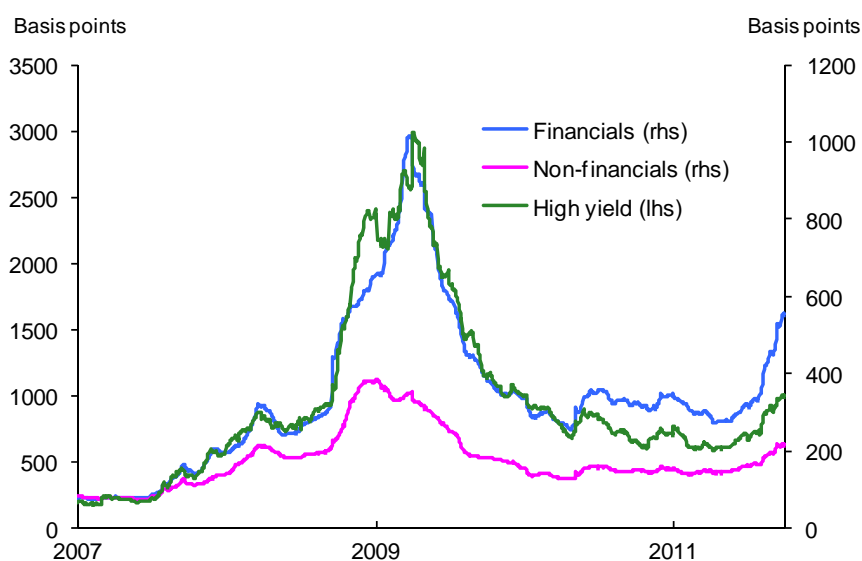
Sources: ONS and BoE.

(a) Market values. Total excludes central government holdings.

Yields of long-dated securities might also fall for another reason. By purchasing gilts, the Bank of England reduces the stock of privately held, relatively long-dated assets. With less duration risk to hold in the aggregate, those in the market that needed to be induced to take it should require a lower premium. This tends to reduce the term premium for all long-dated assets.

For both these reasons, the prices of long-dated risky assets – corporate bonds and equities – are likely to rise. Sterling corporate bond yields did indeed decline substantially since the start of the Bank’s asset purchase programmes (Figure 9), particularly in 2009 when most of the purchases were made.

**Figure 9: Sterling corporate bond spreads for financials, non-financials and high yield<sup>(a)</sup>**

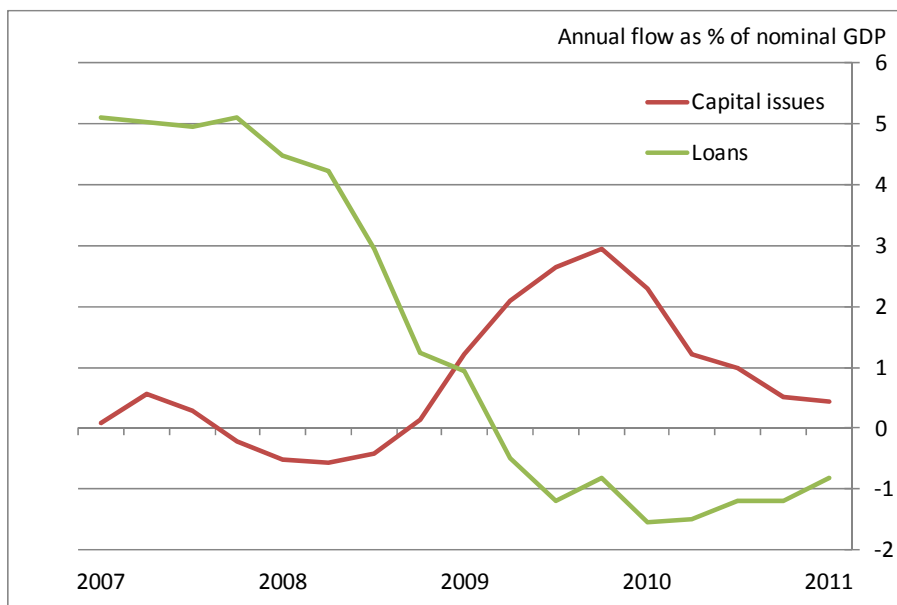


Sources: Bank of America/Merrill Lynch and Bloomberg.

(a) Spreads of corporate bond yields over reference gilt yields.

How much of that decline was due to asset purchases by central banks is impossible to tell from a graph of course – which is why one does econometrics. But what is clear is that this is helpful for companies who can directly tap the capital markets. These companies may be able to replace bank funding with funds directly raised on financial markets. There is evidence that this happened during 2009 (Figure 10).

**Figure 10: PNFC substitution of bank debt to capital market issuance<sup>(a)</sup>**



Source: Bank of England.

(a) The capital issuance series shows the net amount raised from sterling issuance of equity, bonds and commercial paper by UK PNFCs. Lending series is sterling net lending to PNFCs excluding the effects of securitisation.

The decline in yields and the rise in asset prices also generates capital gains for households who own risky assets, and they may decide to consume part of their increased wealth.

It is important to note that the impact of asset purchases by the central bank on the yields on risky assets is the sum of any impact on gilt yields plus the impact on the spread between the yield on risky asset yields over gilts. A reduction in gilt yields is not necessary for gilt purchases to have an effect on the real economy via the portfolio balance mechanism: if the spread falls, asset purchases would be affecting the cost of finance to the private sector and potentially generating capital gains even if gilt yields are unchanged.

There are certainly conditions under which the sort of portfolio re-balancing and re-pricing I have described would not happen. Gauti Eggertsson and Michael Woodford present a model in which they do not.<sup>3</sup> The essence of this is that if the private sector – in the form of a single representative agent who has an infinite horizon and is rational – sees the assets held by the government and by the central bank as indistinguishable from their own assets then any swap of assets with the central bank cannot change anything. This is true and is analogous to the Ricardian Equivalence proposition. But the representative agent assumption is a very strong one. And the conditions for the result to go through are not likely to hold

<sup>3</sup> Eggertsson and Woodford (2003), The zero bound on interest rates and optimal monetary policy, Brookings Papers on Economic Activity Vol. 2003, pages 139-211

even in unstressed financial markets – let alone in the wake of a financial crisis where markets are still not operating smoothly.

Let me turn to what I have called the **bank funding channel** (Figure 7). I see this as a channel that might help improve the availability of bank credit (or prevent it getting less available). I use the word 'might' because it is only under conditions of stress in the availability funds to individual banks that I would expect it to operate.

The more concerned banks are about their ability to refinance themselves, the less likely they are to grant loans. When the Bank of England purchases gilts owned by non-banks, all else equal, banks' deposits rise as do reserve balances at the central bank. To the extent that a bank's reserve holdings would then come to exceed its demand for liquidity, it is likely to be more willing to expand lending. Or, if a bank had already lost some other funding, it might be able to avoid a contraction in its lending or a sale of less liquid assets.

The bank funding channel might be weak. It would be weak when the funds generated by the central bank asset purchases come to banks as very short-term wholesale deposits, and banks feel the need to increase their liquid asset holdings (in the form of reserve balances at the central bank) to insure against the risk that these deposits might be withdrawn at short notice. But even then it may be that banks increase their liquid assets by less than the amount of short-term inflows. Should the money inflow to a bank – generated by asset purchases by the Bank of England – be in the form of longer-term funds (term deposits, bonds, or even purchases of bank equity), then it is more likely that the additional funds could help banks expand, or at least avoid contracting, their lending.

### **What will be different this time?**

Gilts comprise the vast majority of all assets that the bank bought in 2009/10: just above £198bn out of the almost £200bn worth of asset purchases. The purchases of corporate bonds and commercial paper, although relatively small, might have played an important role in stimulating these markets. The advantage of gilt purchases is that the market for gilts is liquid and deep, and there is no credit risk. The homogeneity of gilts (in terms of credit risk) means that the MPC is not drawn in to making credit allocation decisions between issuers and deciding which firms get funding and which do not. That is not something which the MPC is well placed to do. Liquidity and depth means that big purchases can be made relatively quickly. Net issuance of gilts has been positive over the past two years, so that even excluding the Bank's purchases the value of outstanding gilts is now higher than it was at the time the Bank started purchasing gilts in March 2009. At the time, the Bank concentrated its purchases on conventional gilts with a residual maturity of greater than three years. There are now gilts with a market value of over £500bn falling in that category. At the time the Bank embarked on asset purchases in the Spring of 2009, the figure was around £375bn.<sup>4</sup>

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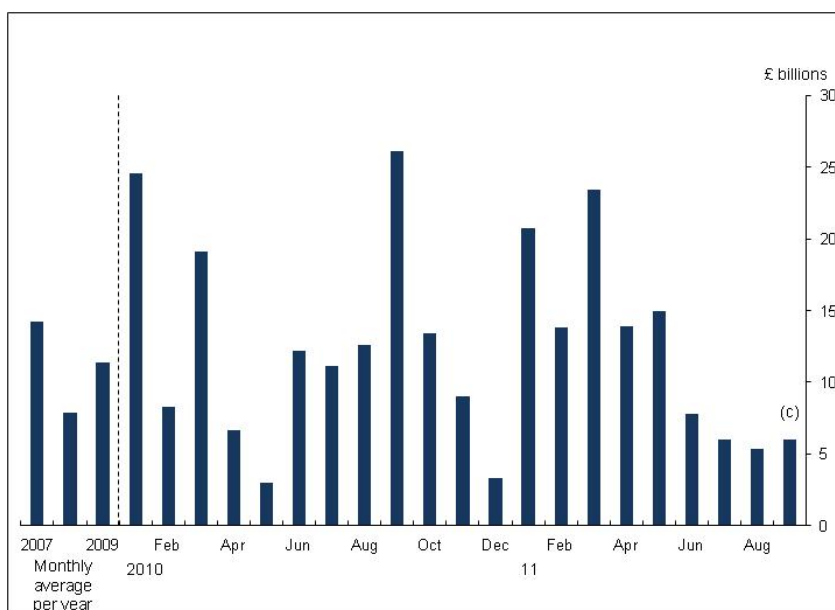
<sup>4</sup> Data as of 2 March 2009 and 30 September 2011.

So I think there are good reasons why when further asset purchases are made to make monetary policy more expansionary it is being done through buying more gilts. Of course that would not be much good if buying gilts today was to have little impact. And conditions are different from 2009 – the period when the asset purchase programme started and from when the evidence of its impact comes.

Gilt yields are now lower – ten-year yields were about 2.5% at the end of September compared to 3.5% when the Bank started to buy gilts in the Spring of 2009, and 4.5% at the start of 2008. But indicators of bank funding costs have increased. Figure 5 showed a simple measure of the cost of insuring against banks' default. The higher this cost, the more expensive it is for banks to raise new funds. Spreads of corporate over government bond yields have also risen (Figure 9), although they are still considerably lower than during the first half of 2009. Bank issuance of debt securities in public markets has been very weak over the summer months (Figure 11).

So some of the stresses that were clear in early 2009 have resurfaced. Survey evidence suggests that tighter bank funding conditions might lead to a reduction in the supply of bank credit. The Bank of England's Q3 Credit Conditions Survey<sup>5</sup> showed a marked increase in the proportion of banks who thought that deteriorating bank funding conditions would contribute to a reduction in their supply of credit, in particular to PNFCs. (This anticipated reduction is shown by negative scores in Figure 12.)

**Figure 11: Term issuance by the major UK lenders in public markets<sup>(a)(b)</sup>**



Sources: Bank of England, Dealogic and Bank calculations. Data subject to revisions.

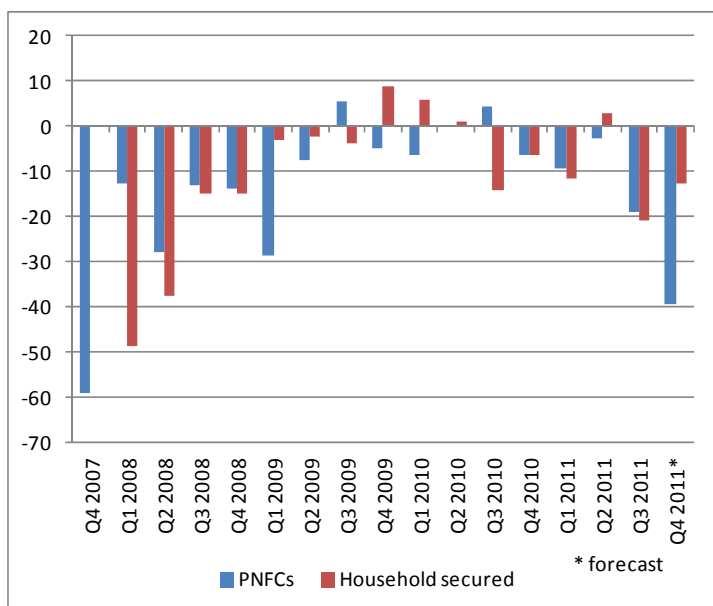
(a) Includes debt issued by Banco Santander, Bank of Ireland, Barclays, Co-operative Financial Services, HSBC, Lloyds Banking Group, National Australia Bank, Nationwide, Northern Rock and RBS. Term issuance refers here to securities with an original contractual maturity or earliest call date of at least 18 months. It includes subordinated lower Tier 2 and Tier 3 capital instruments with debt features.

(b) Includes unguaranteed senior debt; covered bonds; residential mortgage-backed securities; commercial mortgage-backed securities; medium-term notes; subordinated debt; senior debt issued under HM Treasury's Credit Guarantee Scheme; and other asset-backed securities.

(c) Data updated as of 3 October 2011.

<sup>5</sup> Bank of England, *Credit Conditions Survey*, 2011 Q3.

**Figure 12: Influence of banks' wholesale funding conditions on the availability of bank credit<sup>(a)(b)</sup>**



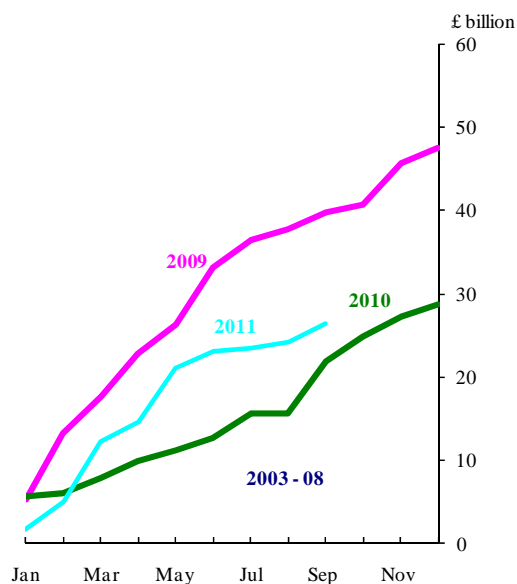
Source: Bank of England, Credit Conditions Survey, 2011 Q3.

(a) Net percentage balances, calculated by weighting together the responses of lenders.

(b) A positive balance indicates that more credit is available.

Corporate bond issuance has almost stalled over the summer months (Figure 13).

**Figure 13: Cumulative gross issuance of bonds by UK PNFCs<sup>(a)</sup>**



Sources: Dealogic and Bank calculations.

(a) Data are subject to revisions.

And the Bank's Network of Agents reported in September that concerns about the withdrawal of overdraft facilities at short notice had led some small firms to run permanent sizable cash balances, inhibiting investment.<sup>6</sup>

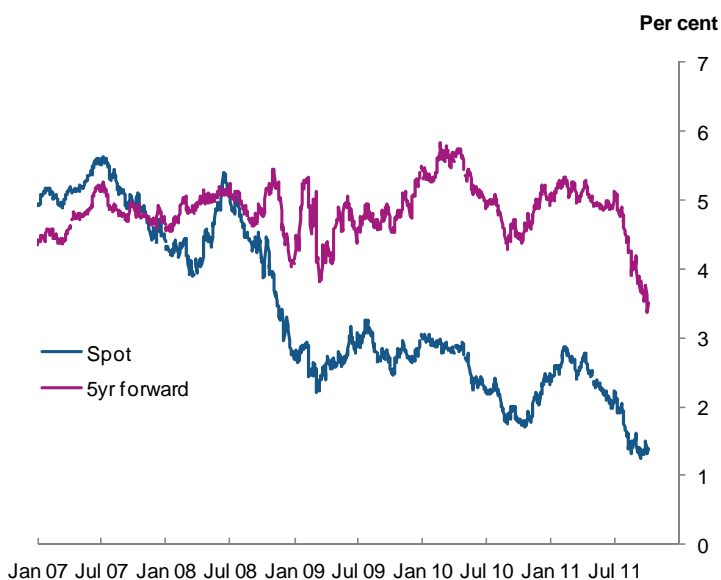
<sup>6</sup> Bank of England (2011), *Agents' summary of business conditions*, September.

This deterioration of funding conditions suggests to me that asset purchases now could support credit and demand growth not only via the portfolio substitution channel but possibly also via what I have called the bank funding channel. In conditions of heightened stress in markets, some banks' lending may become constrained by their ability to raise deposits (either wholesale or retail). If QE generates more deposits for some such banks – and certainly if it generates longer term funding – it could have positive effects.

Nonetheless there is a good deal of scepticism that asset purchases today will be particularly effective.

One reason for scepticism about the effectiveness of further purchases of gilts is that gilt yields are already very low. Short-term yields are indeed extraordinarily low, though they are still significantly higher further out in the yield curve: 5-year yields were at 1.4% at the end of September, but ten year yields were higher, implying that five year yields in five years' time were around 3.6% (Figure 14).

**Figure 14: UK five-year nominal government bond yields<sup>(a)</sup>**



Source: Bank calculations.

(a) Spot and forward interest rates derived from the Bank's government liability curves.

Yet even if we just focus on the impact of asset purchases on gilt yields, I am doubtful about the argument that more asset purchases now will be much less effective. It might take a larger volume of gilt purchases to drive yields down by 50bp now than when yields were higher. But a fall in yields of 50bp from, say, 2.5% also generates more of a rise in asset prices than the same fall in yields from 3.5%. Consider how the price of a perpetual bond would respond to a reduction in yields by 50bps. The price of a perpetual bond is just the inverse of its yield. So reducing yields from, say, 3.5% to 3% drives its price up by  $100 \times (3.5/3 - 1) = 16.7\%$ ; whereas reducing the yield from 2.5% to 2% increases its price by 25%. So even if the impact on yields per pound of purchases was only two thirds as big, the impact on prices would be the same. Note too that the spreads in the yields on other assets (e.g. on corporate bonds) are not unusually low today (see Figure 9). So it is not at all likely that the scope to reduce those spreads is very limited.



More fundamentally some might argue that additional asset purchases will mainly have an effect on inflation, not on real variables. But in many sectors of the economy demand for goods and services appears to have fallen behind productive capacity; it might fall further. The reason the MPC has embarked on a second round of asset purchases is that it is more likely than not that otherwise demand would be so weak that inflation would fall below the Bank's target. That might seem farfetched today with inflation close to 5%. But recall that between September 2008 and September 2009, annual CPI inflation dropped from 5.2% to 1.1%.

## **Conclusion**

The outlook for growth in the UK has deteriorated over the past months. That means that domestic inflationary pressures further ahead look lower than I thought in August. Stress has re-emerged in financial markets, and concerns about the stability of the banking sector have re-surfaced. In the light of this, the MPC has decided to resume asset purchases. That is where I think we stand today. It is an unusual situation and to future generations it will, as I observed at the outset, look like an interesting period. For today, it is not a comfortable situation to be in.

Let me finally take a step back and think about why we are in this uncomfortable position. In my view, the key reason is the fragility of parts of the banking sector. And it seems to me clear that an important part of the long-term strategy to stop this happening again must be to make the financial system – and banks in particular – much more robust. As I have argued previously, I believe that the single most effective way to do this is to have banks use much more equity and less debt to finance their activities so that their leverage is reduced. This would mean that banks could withstand greater falls in the value of their assets before they got near to a position where those who had provided debt were sufficiently concerned about not getting all their money back that they withdrew funding.

But for today monetary policy should be set to help prevent the economy from stagnating and driving inflation to sit persistently beneath the target. That is why today the Bank has started to buy more assets.