

Discussion Paper

What's wrong with QE?

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John Ashcroft PhD BSc(Econ) FRSA CBIM



John Ashcroft PhD, BSc(Econ) CBIM, FRSA

is Chief Executive of pro.manchester, a director of Marketing Manchester, a member of the Greater Manchester Chamber of Commerce, the AGMA Business Leadership Council and a visiting professor at MMU Business School, specialising in Economics, Corporate Strategy and Business Modelling.

John was educated at the London School of Economics and London Business School with a PhD in Economics from MMU.

His doctoral thesis, the UK cyclically adjusted balance of payments 1980 - 1992 was published in 1995.

A more detailed briefing paper, Forty years of UK trade 1970 - 2011 published in April this year provides an update on the original thesis. Depreciation of Sterling and the UK Trade in Goods 2008 -2011 is the latest update in the series.

The Saturday Economist, a weekly update on UK economics is published on the web site. Just Google The Saturday Economist for more information.

The Sunday Times and Croissants is the weekly blog on news, economics, the day job and tennis updates.

The Corporate Strategy Case Study : Apple from the iPod to the iPad Second Edition was published in April 2012 and is available as a free download with teaching notes, excel files and keynote presentations from the web site.



The Saturday Economist Briefing Paper

What's wrong with QE and the Asset Purchase Facility?

By John Ashcroft April 2012

1 Introduction

The Bank of England is on the defensive with regard to the policy of Quantitative Easing [QE]. The Asset Purchase Programme of £325 billion has led to widespread criticism by the National Association of Pension Funds, the latter suggesting the first £250 billion of QE has already cost the pension funds industry almost £200 billion as gilt prices have risen and yields have fallen sharply, creating a yield : capital gap for the sector.

At the pro.manchester Business Conference in March David Miles said : I sense that there is more agreement by people outside the Bank of England with the policy of making monetary policy very expansionary than with the means by which it is being pursued – which is through buying gilts.

The QE process is supposed to inject liquidity into the economy, increase money supply and stimulate nominal demand in the economy. Who could not agree with that?

But does QE really achieve everything it is set out to do? There is no doubt the impact on gilt prices and yields have been significant. Gilt prices have risen, yields have fallen but what else? What is the economic impact of low yields on the economy?

Domestic demand is flat, money supply M4 growth is low, bank lending is restricted, business investment is inactive and household spending is constrained.

It all started so well. Following six interest rate cuts and with base rates of 0.5% at or near the zero bound, the Governor announced a £75 billion asset purchase programme. In an interview with Stephanie Flanders on BBC the Governor Mervyn King said “What we are trying to do is to increase the supply of money in the economy to support economic growth.”

He went on to say, the asset purchase programme will increase the amount of money held by the wider economy which will influence decisions to spend money directly or to reallocate the assets owned which may increase the value of other assets, people will feel better off and hence they will be more liable to spend.

The amount of money in the economy is not growing quickly enough. The supply of money is flat, not enough to ensure growth.

Normally we cut interest rates to boost the money supply, we have done that it does help, now we will increase the supply of money to ensure growth and inflation return to normal levels.

I think it will be surprising if the extra money that we inject into the wider economy will not at some point feed through into higher spending and economic recovery. It's all about money supply.

The Governor went on to say - I think £75 billion is the right figure to begin with .

What's wrong with QE? May 2012



According to the Bank of England Red Book, the objective of Quantitative Easing is to boost the money supply through large-scale asset purchases and, in doing so, to bring about a level of nominal demand consistent with meeting the inflation target in the medium term.

It all seemed so straightforward. The £75 billion almost 5% of GDP seemed to be a bold initiative to stimulate liquidity and growth.

The first round of Quantitative Easing or asset purchases was essential to improve liquidity in the banking system at a time of crisis.

In the final quarter of 2008, inter bank lending was desiccated, LIBOR spreads were extending. The central bank was becoming not just the last lender of resort but the only lender of resort. Action had to be taken to inject cash into the economy by undertaking a series of asset purchases predominantly gilts. [Chart 11]

The recent QE conference at the Bank of England [November 2011] reaffirmed the original objective of policy. By purchasing assets, mainly medium to long-term government bonds (gilts), financed by central bank money, the aim of the policy was to create a monetary stimulus large enough to increase nominal demand so that inflation would meet the target in the medium term.

Since 2009 the arguments for QE have become a little more diffuse and less clear cut. Spencer Dale in a speech to Bloomberg in December said

“I would be the first to admit that we are uncertain about the relative strength of the mechanisms through which QE works and about its precise impact on the economy.”

The QE programme has increased from £75 billion to £325 billion, from 5% to over 20% of GDP, The Bank of England owns over 30% of conventional gilts in issue and has purchased over 60% of the new gilts issued since the beginning of 2009.

The impact of the Asset Purchase Programme is in doubt but worse still, it is not clear from whom the Bank of England has been buying the gilts. All gilt stakeholders have increased their holdings since the asset purchase programme began. The

Bank of England, directly or indirectly, appears to be buying gilts from the Debt Management Office. [Chart 9,10]

Far from injecting liquidity into the economy and increasing the supply of money, the Bank is mopping up the new debt issues to ease the funding requirement of central government.

The Asset Purchase Programme is morphing into debt monetization, a two-step process where the government issues debt to finance its spending and the central bank purchases the debt to fund the issuance.

QE is not doing what it is supposed to do. Money supply M4 is flat, domestic demand is constrained. Furthermore QE has additional damaging side effects. The monetary stance and the QE process undermines sterling*, thus exacerbates the inflationary impact of world commodity prices. Higher inflation, particularly energy and oil prices, places pressure on real incomes, reducing consumer and household expenditure and weakening domestic demand.

[*The depreciation of sterling occurred prior to the commencement of the QE policy action and can be explained largely by relative changes in short term rates. We do not argue that QE was the cause of the depreciation but is an extension and confirmation of the monetary stance. [Chart 12]

Gilt prices are forced up, yields fall, pensioners are penalized, pension fund values are badly hit, despite the rise in capital values, the yield gap creates greater pension fund liabilities which can only be met by the purchase of more gilts or greater quantities of higher risk assets.

QE distorts the yield curve forcing prices up into the fifth sigma of price variation - a Black Swan event.

[The average yield on ten year gilts 2000 - 2011 is 4.5% with a standard deviation of 0.45% Chart 7]

Inflation adjusted real yields are negative according to the Bank's own disaggregated model. [See chart 8]. Any wealth effect from asset prices, is offset by low yields and a pension funding gap.

What of the unwind process. How do we begin the process of unwinding the Asset Purchase Programme?

According to a recent analysis the Bank of England, thanks to QE, is sitting on profit of £50 billion. That is on a mark to market basis. On a mark to redemption basis the Bank must be sitting on loss of £100 billion as gilt prices are far ahead of redemption values.

According to the Institute of Fiscal studies, the DMO will have to issue £750 billion over the next five years to meet the new issue and debt roll over requirements of the government funding programme. The DMO is expected to issue £175 billion in the current financial year 2012/13 alone.

In this expansive capital environment the Bank will be unable to easily reverse the QE process as part of monetary policy. The gilts may have to be held to redemption. Any book loss indemnified by Government and the UK tax payer.

In this paper we look at some of the arguments in greater detail and review the literature on QE in the UK. From simple beginnings the arguments have become confused and the impact unclear.

2 Quantitative easing : Definition

Quantitative easing (QE) is an unconventional monetary policy used by central banks to stimulate the economy when conventional monetary policy has become ineffective.

If the nominal interest rate is at or very near zero, the central bank cannot lower it further. Such a situation, called a liquidity trap can occur, during deflation or when inflation is very low or at a time when domestic demand is constrained.

In such a situation, the central bank may perform quantitative easing by purchasing a pre-determined amount of bonds or other assets from financial institutions. The goal of this policy is to increase the money supply and stimulate demand rather than to decrease the interest rate, which cannot be decreased further.

3 Liquidity Trap and Planet ZIRP

A liquidity trap occurs when domestic demand is constrained and monetary policy is at the

lower of zero bound and is unable to stimulate demand. Households reduce expenditure, hoard cash or reduce debts as a result of financial shock, business are loathe to invest even without balance sheet constraint as the demand horizon appears to be uncertain. Government spending may also be under pressure to meet financial performance criteria related to rising debt to GDP ratios.

Signature characteristics of a liquidity trap are short-term interest rates that are near zero and fluctuations in the monetary base that fail to translate into fluctuations in general price. The situation is often referred to as a Zero Interest Rate Policy. We have blogged in 2008, 2009 and again in 2011 on Life on Planet ZIRP. [App 2].

4 QE Process

A central bank buys financial assets to inject a pre-determined quantity of money into the economy. The central bank implements quantitative easing by purchasing financial assets from banks and other private sector businesses with new electronically created money increasing the central bank reserves. The Bank does not actually print money.

QE increases the demand for the bonds and raises the prices of the financial assets bought as a result. The process of a rise in bond prices conversely lowers the yield or coupon on the bond issued.

5 Gilt Yields and Prices The yield is the inverse of the price.

To explain the impact of QE on yields and prices, consider the average yield on UK gilts outstanding is 4.5% with an average term to redemption of fifteen years and a par value indexed at 100. £100 of gilts issued at par carries a yield of £4.50. If the price increases to £200, the yield of £4.50 reflects a yield % of 2.25% (£4.50 / £200). Conversely if the price of the gilt falls to say £50, the yield of £4.50 reflects a yield % of 9% (£4.50 / £50). The yield is the inverse of the price. Falling yields mean higher prices.

Hence UK ten year gilts have an average coupon of 4.5% and a par value index of 100. Yields on ten year gilts fell to just over 2% in January 2012. The index value peaked at around 225, trading in the fifth sigma of standard deviation. Since

then yields have rallied to 2.4% [March 2012] and the index value has fallen to under 190. Capital values have fallen by over 15% despite the announcement of an additional £75 billion of QE3. The markets are becoming wary of the APF programme. [More recently prices have rallied as the international appetite appears unbound.]

6 Bank of England Definitions [2 The Bank of England Red Book]

According to the Bank of England Red Book, the objective of Quantitative Easing is to boost the money supply through large-scale asset purchases and, in doing so, to bring about a level of nominal demand consistent with meeting the inflation target in the medium term.

Under this policy approach, the MPC uses the quantity of reserves directly as a tool of monetary policy. The MPC sets a target for the stock of asset purchases financed by the creation of reserves. This target is achieved by purchasing assets through the Bank's 'Asset Purchase Facility', which, because of the risks posed to the Bank's balance sheet, is indemnified by HM Treasury.

7 QE as an extension of monetary policy

For some stalwarts, QE is a logical extension of the monetary policy tool box. Base rates at or around the zero bound cannot be lowered. Policy makers are pushing on string to increase money supply and enhance liquidity. A programme of QE is a logical extension.

For the hard line advocates of QE, £1 billion of asset purchases is the equivalent of one basis point in base rate reduction. £325 billion is thus the equivalent of a 3.25% reduction in base rate.

In some way a modified Taylor rule adds some credence to the proposition. The Taylor [1993] rule is a guideline for monetary policy that stipulates how much the central bank should change the nominal interest rates in response to changes in inflation and output. If inflation and growth are above target - rates rise and the converse is true.

According to Taylor's original version of the rule, the nominal interest rate should respond to divergences of actual inflation rates from target inflation rates and of actual (GDP) from potential GDP.

Assuming an inflation rate of 3.0% (1% above target) and output some 7.5% below trend rate. the appropriate level of base rate should be - 3.5%, equivalent to a base rate of 0.5% and a QE programme of £275 billion. Not too far off the mark. [Co-efficients set to 0.5].

8 The transmission Mechanism of Monetary Policy - base rates

To begin to understand the transmission mechanism for QE, first we need to understand the transmission mechanism for base rates. According to a paper prepared by the MPC for the Treasury Select Committee, the transmission mechanism of monetary policy is explained. The Monetary Policy Committee (MPC) sets the short-term interest rate at which the Bank of England deals with the money markets. Official interest rate decisions affect market interest rates such as overdrafts, mortgage rates (borrowers) and bank deposit rates (savers).

In turn these changes affect the spending, saving and investment behaviour of individuals and firms. For example, other things being equal, higher interest rates lead to a fall in spending, lower asset values, a fall in investment and a higher value of sterling in foreign exchange markets.

Conversely, lower rates lead to an increase in spending, higher asset values, increasing investment and a lower value of sterling in foreign exchange markets.

Consumer spending is modeled as a function of income, confidence and wealth. Lower rates increase discretionary income adjusted for interest payments and according to the theory, rising asset values increase wealth and provide a boost to confidence and spending.

Higher rates reduce discretionary income as interest payments rise, asset prices fall and confidence falls as fears of economic slow down and unemployment perhaps rise.

As for firms, interest rates affect profit performance after interest payments, increase or decrease the cost of capital, have an impact on investment and employment prospects and make working capital costs higher or lower.

The real problem within the Bank of England model is the understanding of the impact of changes in interest rates on exchange rates. Rate rises will lead to an increase in the value of sterling and conversely rate reductions will lead to a fall in the value of Sterling. So far so good.

Where the model fails is in the impact of changes in the value of sterling and prices and demand. A fall in the value of sterling leads to an increase in import prices and a rise in sterling values leads to a decrease in import prices. [Assuming a 100% pass through ratio].

According to the model an exchange rate rise, leads to a shift of spending away from home-produced towards foreign-produced goods as foreign goods become less expensive relative to goods produced at home. Conversely, a fall in exchange rate leads to a shift in spending towards home produced goods away from foreign produced goods as foreign goods become more expensive relative to goods produced at home.

The reality is the price elasticity for import goods is close to zero. We model imports and exports as a function of demand and price. For UK international trade, the demand coefficients are dominant. Export prices are more responsive to price but for the majority of imports, there is no substitution effect and prices are relatively inelastic. Ashcroft J K. [2012, 2012a and 1995.]

An understanding of the role of firms is also mis represented in the model. A rise in sterling may affect the competitive position of UK based firms, make export prices more expensive hitting volumes and margins as a revenue effect. But a rise in sterling makes import input costs cheaper, ie raw materials, semi manufactures and energy costs less expensive, the fall in prices enhancing margins as a cost effect.

Conversely, a fall in sterling may enhance volumes and margins as UK firms appear to be "more competitive" but rising import and input prices have a negative effect on margins and profitability as input costs rise.

According to the Bank of England monetary transmission model, changes in the official interest rate affect nominal demand and inflation. The model suggests that temporarily raising rates

relative to a base case by 100 basis points for one year might be expected to lower output by something of the order of 0.20% to 0.35% after about a year, and to reduce inflation by around 0.2 percentage points to 0.4 percentage points a year or so after that, all relative to the base case.

Conversely a reduction of base rates relative to base case by 100 basis points for one year might be expected to increase output by the order of 0.20% to 0.25% after about a year, and to increase inflation by around 0.2 percentage points to 0.4 percentage points a year or so after that, all relative to the base case.

Despite the flaws in the exchange rate transmission mechanism, the underlying model appears sound. Indeed it is a significant improvement on the transmission mechanism of the 1980s, when it was considered within the Bank of England that interest rates would have no direct impact on consumer spending. The traditional Keynesian interest rate transmission mechanism was dominant with interest rates impacting on investment.

As for long rates, according to the model, though a change in the official rate unambiguously moves other short-term rates in the same direction (even if some are slow to adjust), the impact on longer-term interest rates can go either way.

Unfortunately, the transmission mechanism of the Asset Purchase programme is slightly more opaque.

9 The transmission mechanism of monetary policy - QE

9.1 The Interest Rate Transmission Mechanism - The Governor's model

At the onset the role of QE and the interest rate transmission mechanism appeared to be clear cut. We begin to understand how interest rates work. Interest rates increase or decrease the level of nominal demand in the economy and impact directly or indirectly in inflation. The role of QE is to inject liquidity into the economy, increase money supply and stimulate nominal demand in the economy.

Since the original launch of QE, the script appears to be a little more confused. The

Governor also appears to be confusing the interest rate transmission mechanism. At the recent presentation of the February Inflation Report [2012], the Governor suggested the role or monetary policy is to affect the level of nominal demand by bring forward consumer expenditure from next year to this. "The role of monetary policy is to bring forward household spending from next year into this" he said, "the real problem then is how do we do this in the following year." Strange how policy develops.

9.2 Bank of England Definitions David Miles March 2011

During a speech delivered at the pro.manchester Business Conference David Miles explained, the objective of asset purchases is the same as for a cut in Bank Rate, to stimulate demand for goods and services and to prevent demand falling so much behind supply that inflation would fall below target and stay below it.

At the moment, with bank rate judged to have effectively reached its floor, monetary policy is being loosened through the purchase of assets, and those assets are government bonds (gilts).

9.3 Spencer Dale speech, QE one year on, - Trinity College Cambridge

At a speech at Trinity College Cambridge in 2010, When asked "so what impact have our asset purchases had to date : Spencer Dale replied "That's the two hundred billion pound question. Unfortunately it is hard to provide a definitive answer."

The Bank had identified three key channels of monetary transmission - The impact of imperfect substitutability and the portfolio rebalancing channel on relative prices, the role of financial market liquidity and the importance of expectations. Not quite so clear cut.

9.4 Charlie Bean November 2011 To the Council of Mortgage Lenders

By November Charlie Bean confused the picture a little more. "As you will no doubt know, quantitative easing aims to depress a range of longer-term yields and raise asset prices, so boosting demand", he said.

Actually this we did not know, neither do we know exactly how falling long term yields and

rising asset prices affect demand, other than some possible reference to the wealth effect perhaps. Where is the link to consumers and the conventional interest rate transmission mechanism? And what of the punitive impact on pensions?

9.5 Spencer Dale December 2011 at Bloomberg London

In December 2011 Spencer Dale said "I would be the first to admit that we are uncertain about the relative strength of the mechanisms through which QE works, and about its precise impact on the economy. That is true of almost all public policy actions. But particularly so for the MPC's asset purchase programme which effectively breaks new ground for UK monetary policy.

He then went on to explain the possible interest rate transmission effect adding to the debate the following:

"More fundamentally, the aim of QE is not to reduce government borrowing costs. It is to reduce the borrowing costs faced by UK companies and households. The spread of these borrowing costs over gilt yields has widened in recent months as euro zone tensions have increased, risk appetites have shrunk and there has been a general flight to safety.

Our asset purchases directly push back against that tendency: reducing the supply of gilts and encouraging investors to reallocate their portfolios into more risky assets, such as corporate bonds and equities. And in so doing, they should help to reduce the cost, and increase the availability, of lending to larger companies.

[In reality this has not been the case since all stakeholders have increased their holdings of gilts since the asset purchase policy began. Pension funds have been obliged to purchase more gilts to offset the yield gap.]

9.6 Martin Weale November 2011 NIESR

Martin Weale contributed to the debate in November 2011 at a presentation at the National Institute of Economic and Social research. Now suggesting the role of QE is to reduce long term rates, boost share prices, house prices and hence consumer expenditure as a result of the increasing wealth effect.

Martin Weale : The policy [QE] is intended to reduce long-term interest rates. And, if the interest rate component of the discount factor which relates expected future company earnings to share prices has fallen by the same amount, then the policy is expected to raise share prices by up to 7.5%.

"Studies of consumer behaviour that focus on explaining the data rather than working with the narrow constraints of the life-cycle model suggest that the resulting capital gains will support consumption with typical estimates of propensity to consume out of household wealth in the range 2-5%.

Lower interest rates and higher share prices also have the effect of reducing the cost of capital. Taking the existing mix of corporate finance as given, the interest rate movements identified have the effect of reducing the cost of capital by up to 40bp. The policy may also have some impact on the exchange rate. Indeed one would expect it to, because if domestic demand is increased, then overall, the economy needs to be more competitive to satisfy the external inter-temporal budget constraint."

"In addition, it would be odd if only long-term financial assets were affected by a decline in long-term interest rates. Reduced long-term rates should be expected to affect the prices of houses, or at least that of the land on which they stand and the effect on house prices is likely to be larger than that on share prices because the yield on housing is lower than the earnings yield on shares."

"Micro-economic evidence on whether people spend out of housing wealth or not is conflicting he said (see Campbell and Cocco, 2007 and Attanasio, Blow, Hamilton and Leicester, 2009). But the macro-economic evidence is reasonably definitive (Barrell and Davies, 2007); an increase in house prices should also support household consumption. Combining these effects, and allowing for the fact that, while higher demand leads to higher incomes and higher second round spending, there are also substantial leakages from the circular flow of income, these calculations overall point to an effect of our current programme of asset purchases on GDP of up to 1/2%, a figure equal to the central

estimate implied by the analyses described in the Quarterly Bulletin in August (Joyce et al., 2011). However there are also good reasons for expecting some of the effects, working on investment, to lead to a permanent increase in supply."

It is as one would expect a cerebral piece but becomes rather tendentious at the extreme. The basic interest rate mechanism is well defined, the impact of short rates on discretionary incomes dominant.

The impact of QE via the Martin Weale process is more difficult to accept. Can we really believe that QE has led to an increase in share prices and house prices? There is no evidence of any impact on house prices or share prices. [Charts 4 and 5].

House prices averaged £165,000 in the third quarter of 2008 and were £164,000 in April 2012 according to the Halifax House Price Index. The FTSE averaged 5,500 in the third quarter of 2008 and 5,500 in the second quarter of 2012. Hardly conclusive evidence.

9.7 David Miles October 2011 Royal Economic Society

The presentation by David Miles at the pro.manchester conference in March 2012 was based largely on a presentation made in October last year to the Royal Economic Society.

David Miles: 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.

"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.

Consider first the portfolio substitution channel. 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.

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.”

This argument is all very well but since ALL holders of gilts have increased their holdings of gilts since QE began, the process is more likely to be “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, which are then used to pay the short dated liability to the debt management office”.

In essence according to the National Association of Pension Funds, pension funds are obliged to purchase more gilts to supplement the yield gap as a result of falling yields, not to purchase other higher risk assets.

9.8 Key Publications from the Bank of England

1 The economic impact of QE: Lessons from the UK, Joyce, Michael; Michael, Tong, Matthew R; Woods, Robert, 1 November 2011. Bank of England Quarterly Bulletin.

According to Joyce et al, The main effects of QE1 seem to have come through higher asset prices and the consequent reduction in borrowing costs and increases in wealth of asset holders.

Event studies show that there were significant falls in medium to long-term gilt yields after important QE announcements, summing to just under 100 basis points (see Joyce et al 2011a). Using survey data of economists’ expectations regarding the total size of QE purchases, it is also possible to calculate the amount of asset purchase ‘news’ in each announcement and relate the latter to observed yield changes.

A simple regression of yield changes against QE news calculated in this way suggests that medium to long-term gilt yields fell on average by 0.6 basis points in response to each additional £100 billion of unanticipated QE purchases that were announced. This would be consistent with an overall effect on yields of more than 100 basis points for the whole £200 billion programme.

A variety of models are used SVAR, time series, a monetary model and so on. Taking the estimates together, they imply that QE1 could have boosted real GDP by as much as 1.5% to 2% and increased inflation by between 0.75 and 1.5 percentage points. Using a ready-reckoner from the Bank of England’s forecasting model suggests that this would be equivalent to

a 150 to 300 basis-point cut in the Bank Rate, a significant reduction. Of course, there are large uncertainties even with this range and it is possible that the effects could have been larger or smaller.

2 The impact of QE on the UK economy – some supportive monetarist arithmetic

Jonathan Bridges(1) and Ryland Thomas(2)

This paper uses a simple money demand and supply framework to estimate the impact of quantitative easing (QE) on asset prices and nominal spending. Standard money accounting is used to try to establish the impact of asset purchases on broad money holdings. The report shows the initial impact of £200 billion of asset purchases on the money supply was partially offset by other ‘shocks’ to the money supply. Some of these offsets may have been the indirect result of QE. The central case estimate is that QE boosted the broad money supply by £122 billion or some 8%.

“We apply our estimates of the impact of QE on the money supply to a set of ‘monetarist’ econometric models that articulate the extent to which asset prices and spending need to adjust to make the demand for money consistent with the increased broad money supply associated with QE. Our preferred, central case estimate is that an 8% increase in money holdings may have pushed down on yields by an average of around 150 basis points in 2010 and increased asset values by approximately 20%.

This in turn would have had a peak impact on output of 2% by the start of 2011, with an impact on inflation of one percentage point around a year later. These estimates are necessarily uncertain and we show the sensitivity of our results to different assumptions about the size of the shock to the money supply and the nature of the transmission mechanism.

In both cases (Joyce and Bridges) the estimates are considered to be uncertain and a generalised assumption is derived about the indirect impact of QE on money supply, yields, asset prices, output and inflation without much substance.

10 What happened to Gilt Prices

It is generally accepted the QE process has pushed up gilt prices and forced down gilt yields. The extent of the impact of the Bank of England Asset purchase programme on prices is subject to some conjecture. Since the QE process was announced, Gilt yields have fallen by over 200 basis points. There is some evidence that non financial institutions moved into gilts ahead of the asset purchase programme pushing up prices and forcing down yields ahead of the BOE intervention.

Joyce et al suggest the impact on yields would be of the order of 100 basis points. Bridges and Thomas 150 basis points. 100, 150 or 200 the impact on prices and yields is not really the issue.

The real question is what is the impact of a reduction in long term gilt rates on the economy?

No firm conclusions are offered in the significant paper Joyce et al on the subject. “If we compute the range across the different estimation methods, using the middle of the ranges of the bottom-up estimates, this would suggest that QE may have raised the level of real GDP by 1.5% to 2% and increased inflation by between .75 to 1.5 percentage points.

The paper goes on to say, these estimates are clearly highly uncertain, particularly as none of the methods used to produce them fully capture all the likely transmission channels set out earlier, but they do suggest that the effects of QE were economically significant. **The exact transmission mechanism remains unclear.**

The APF programme allegedly boosts confidence, sends a signal about policy, improves market liquidity and money supply and leads to portfolio rebalancing. Asset prices rise, the exchange rate falls, bank lending increases as does total wealth, stimulating spending and the cost of borrowing falls.

The reality has proven otherwise. Gilt prices have risen, yields have fallen but bank lending remains subdued, money supply remains below long term trends, consumer spending is constrained, investment is contained despite the lower cost of capital.

The fall in exchange rate has compounded the problem of higher import prices particularly, energy, oil, food and basic commodities, placing greater pressure on household incomes reducing domestic demand.

Lower gilts rates reduce incomes for savers, increase annuity costs and create a negative wealth effect on pension funds by creating a yield gap. The NAPF estimates the capital loss as a result of lower yields is some £200 billion.

Ten year gilts at around 2% distort the yield curve, producing a negative real return on investment according to the Bank's own disaggregated model [Chart 8], forcing pension funds to buy more gilts to fund the yield gap.

The UK economy is flatlining despite a promising recovery in 2010 which hit the buffers in Q1 2011. Household expenditure remains under pressure from low incomes, high inflation, a fiscal policy which increases VAT and raises fears about job security.

QE compounds the real income problem for households, reduces the return on savings and does nothing to stimulate domestic demand. The purchase of over 30% of the conventional gilt stock and over 60% of the new debt issued since 2009 eases the gilt issue challenge of the debt management office but little more.

11 Holders of Gilts

From whom has the Bank purchased the gilts as part of the APF. The bulk of the purchases have been on government conventional gilts with a maturity of over five years.

The quantity of gilts in issue has doubled from £536 billion in 2008 to over £1.2 trillion by the beginning of 2012.

In that time, the Bank of England has acquired over £300 billion of gilts. Overseas holdings of gilts have increased from £200 to £355 billion over the same period. But all other stakeholders of gilts also appear to have increased their holdings. Insurance companies and pension funds have increased holdings from £230 billion to £317 billion by Q3 2011. Other financial institutions have increased holdings from and average £100 billion in 2008 to over £120 billion.

Monetary Financial Institutions have increased holdings from virtually nothing to over £350 billion.

Local government, public corporations, private sector companies and households have also increased but together account for less than 1.5% of total holdings.

Specifically in the period 2008 Q4 to 2011 Q3, the total value of gilts in issue has increased from £616 billion to £1,154 billion, an increase of £537 billion. The Bank of England holding has increased from zero to £213 billion, the equivalent of 40% of the new issues.

The QE process is supposed to inject liquidity into the economy, increase money supply and stimulate nominal demand in the economy. It is said, the asset purchase programme will increase the amount of money held by the wider economy which will influence decisions to spend money directly or to reallocate the assets owned which may increase the value of other assets, people will feel better off and hence they will be more liable to spend.

But how can this be? All stakeholders have increased their holdings of gilts during the implementation of the APF. [Charts 9 and 10]

The Bank is directly or indirectly buying gilts from the debt management office, funding government borrowing in a form of debt monetisation. The impact on the wider economy in terms of money supply, bank lending, private sector investment and consumer spending is rather more obscure.

12 The disaggregated yield curve

The fall in ten year gilt yields to just over 2.2% reflects a misallocation of capital and distorts the yield curve creating issues of mis pricing and mis allocation of capital, placing an obstacle to realistic investment assessment and incentive.

We model ten year gilts according to Fisher, with a real risk return and an inflation hedge. According to the Bank of England's own disaggregation model, ten year gilt yields of 2.2% reflect a negative real return of 0.7% compared to an inflation expectation hedge of 2.9%. [Chart 8]. It just cannot make sense.

13 Conclusion

At the Bank of England Conference on Quantitative easing and other unconventional monetary policies: in November last year the following conclusion was drawn. Overall, the papers presented at the Bank's November conference broadly supported the emerging consensus that QE and other unconventional monetary policies have helped to mitigate the macroeconomic effects of the global financial crisis. Evidence presented at the conference suggested that asset purchases by the Bank of England and the Federal Reserve had led to significant falls in government bond yields.

There was also evidence that asset purchases and other balance sheet policies resulted in significant effects on the wider economy.

That said, there was less agreement about the magnitude of the effects and the main mechanisms through which the policies may have worked. Nor was there agreement on whether there was scope to use these policies in normal times.

We are prepared to concede the first conclusion that asset purchases by the Bank of England have led to a significant increase in gilt prices and falls in government bond yields but would seriously question the idea the asset purchases produced "significant effects on the wider economy". There appears to be no theoretical evidence to support the statement and not empirical evidence to sustain the proposition.

Gilt prices have risen, yields have fallen but bank lending remains subdued, money supply remains below long term trends, consumer spending is constrained, investment is contained despite the lower cost of capital available to investors.

The fall in exchange rate has compounded the problem of higher import prices particularly, energy, oil, food and basic commodities, placing greater pressure on household incomes reducing domestic demand.

Lower gilts rates reduce incomes for savers, increase annuity costs and create a negative wealth effect on pension funds by creating a yield gap which can only be met by the purchase of more gilts or other low risk assets.

According to the NAPF, QE has cost the pension fund industry £200 billion.

Ten year gilts at around 2% distort the yield curve, producing a negative real return on investment according to the Bank's own disaggregated model, forcing pension funds to buy more gilts to fund the yield gap.

All stakeholders of gilts have increased their holdings during the asset purchase programme. The Bank of England appears to be buying gilts directly or indirectly from the debt management office. There appears to be no injection of liquidity into the economy increasing money supply leading to a stimulation of domestic demand,

The purchase of over 30% of the conventional gilt stock and over 60% of the new debt issued since 2009 eases the gilt issue challenge of the debt management office but little more.

QE compounds the real income problem for households, reduces the return on savings and does nothing to stimulate domestic demand.

The UK economy is flatlining despite a promising recovery in 2010 which hit the buffers in Q1 2011. [Chart 1]. The lack of recovery is unprecedented in comparison with the recessions of the 1930s, 1980 and 1990. [Chart 2].

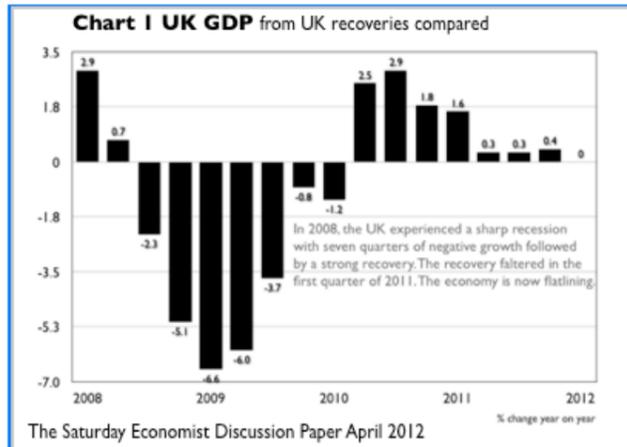
Household expenditure remains under pressure from low incomes, high inflation, a fiscal policy which increases VAT and raises fears about job security.

Domestic demand is constrained by low investment, government spending and household constraint. [Chart 3]

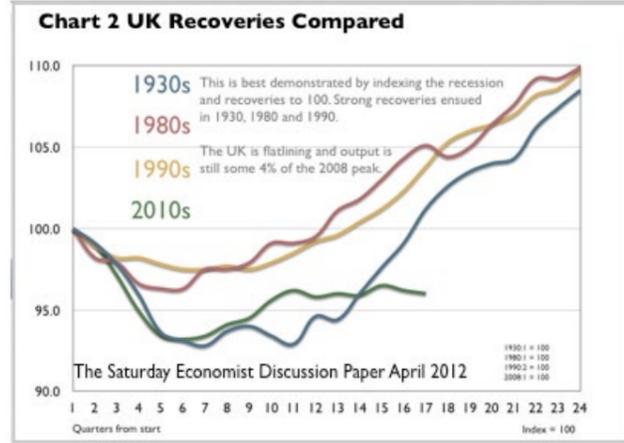
QE is creating more problems for the UK economy than it appears to be resolving. If we cannot be sure about the treatment, it is surely time to stop the application.

Such is the economics of the cuckoo's nest.

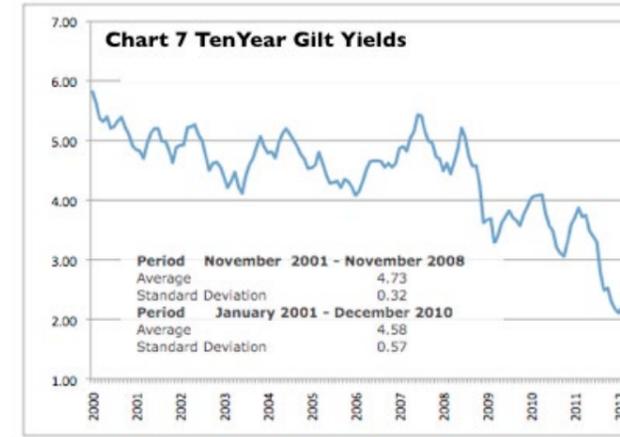
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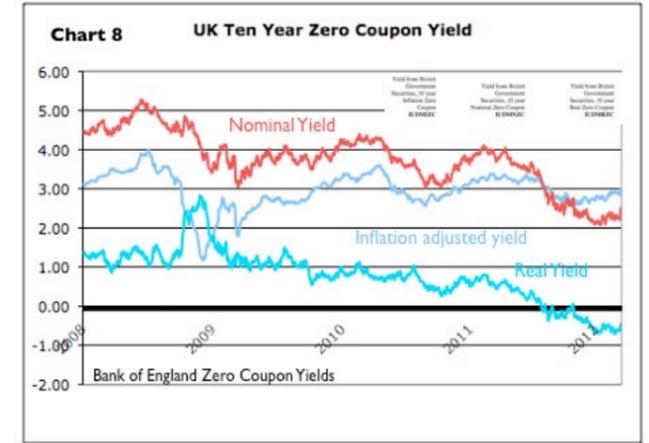
After the deep recession, a promising recovery petered out in 2011.....



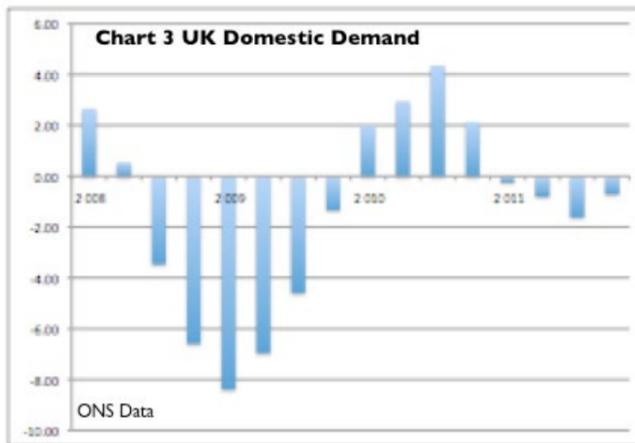
unlike any previous recovery in recent history including the 1930s.



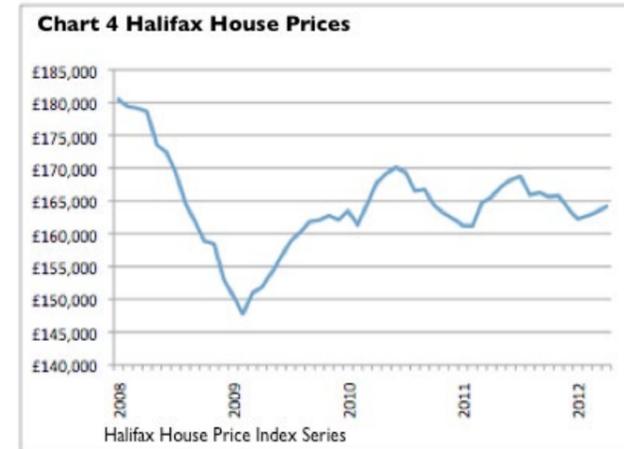
Ten year gilt yields have fallen to 2% from the average 4.5% before QE



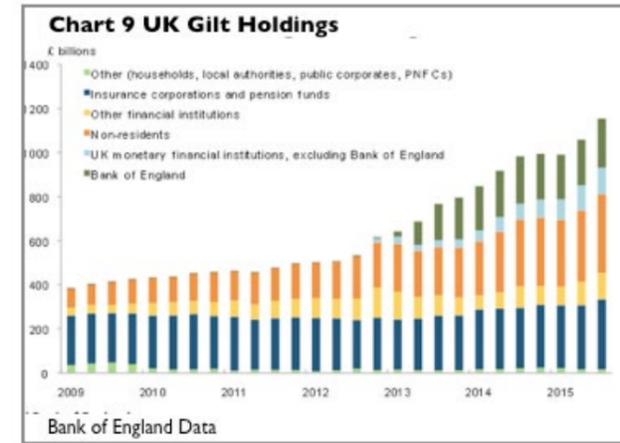
Real gilt prices are negative according to the Bank of England disaggregated model



Domestic demand reflected the collapse of the recovery as household spending came under pressure



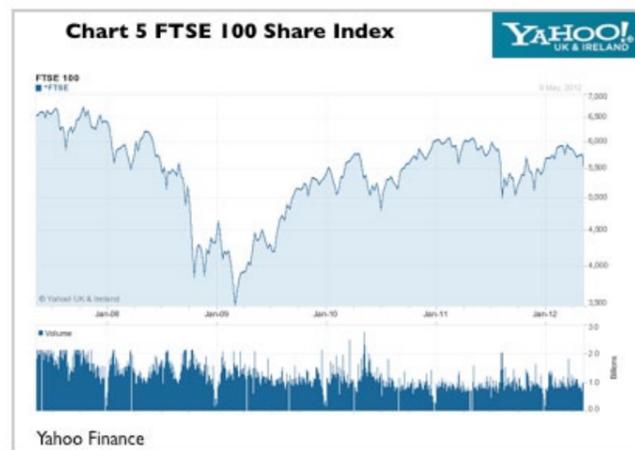
House prices are moving sideways



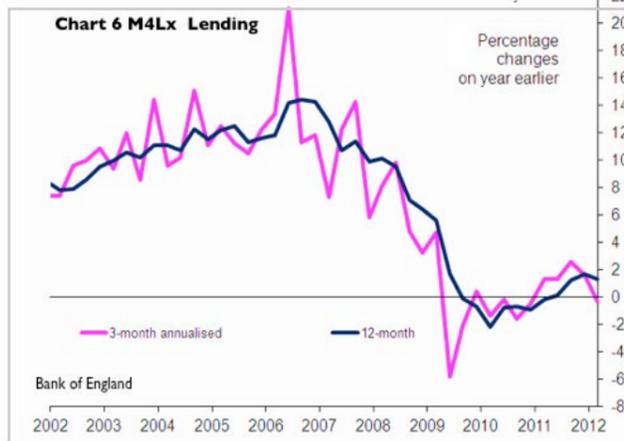
All stakeholders have increased their holdings of conventional gilts since QE began



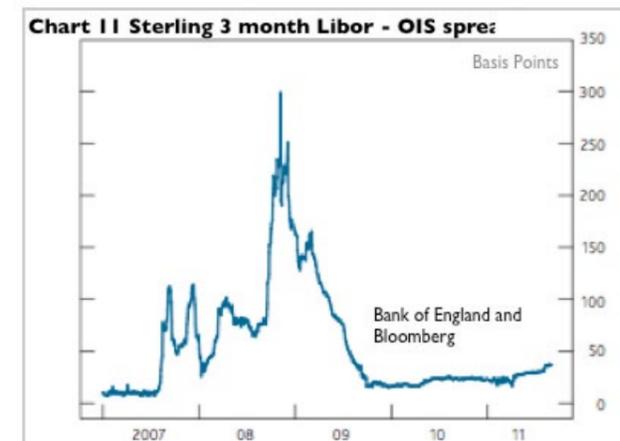
As the Bank of England own data demonstrates



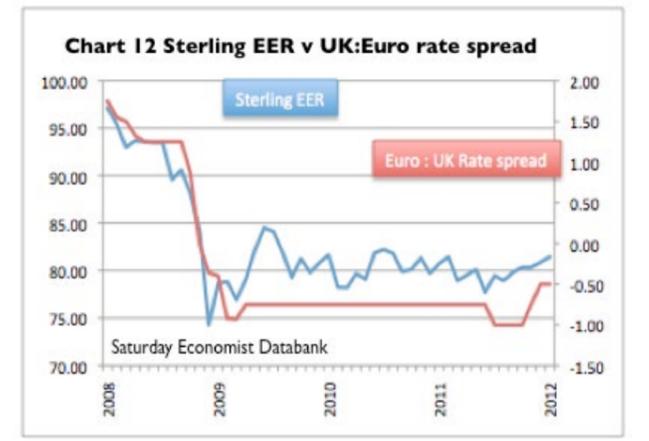
Equities are more or less in line with the levels of mid 2008



Broad money M4 is well below trend growth levels before the recession.



Liquidity under pressure in late 2008 as the Bank became not just the lender of last resort but the only lender of any resort



The fall in Sterling occurred prior to the onset of QE and is explained by the movement in relative short rates.

Appendices

Appendix 1

Purpose of the Asset Purchase Programme. Extract from the Red Book1: The Bank's current operations in the sterling money markets : Quantitative Easing

60 The objective of Quantitative Easing is to boost the money supply through large-scale asset purchases and, in doing so, to bring about a level of nominal demand consistent with meeting the inflation target in the medium term.

Under this policy approach, the MPC uses the quantity of reserves directly as a tool of monetary policy. The MPC sets a target for the stock of asset purchases financed by the creation of reserves. This target is achieved by purchasing or, in the event that the target is reduced, selling assets through the Bank's 'Asset Purchase Facility', which, because of the risks posed to the Bank's balance sheet, is indemnified by HM Treasury.

61 The Bank purchases these assets predominantly from non-banks, but banks act as intermediaries in the process. The Bank pays for the assets purchased by creating central bank reserves and crediting the accounts of the banks that act as intermediaries. Those banks will in turn credit the accounts of the non-banks from whom they obtained the assets. They will either spend the money on goods and services, which directly adds to overall spending, or purchase other assets, which will tend to boost the prices, and hence lower the yields, of those assets more broadly. In the event of asset sales, in response to a reduction in the target, the Bank would debit the accounts of the institutions it sells the assets to, reducing the stimulus to nominal demand.

64 To improve the liquidity in, and increase the flow of, corporate credit, the Bank also purchases and sells high-quality private sector assets through the HM Treasury-indemnified Asset Purchase Facility, namely commercial paper, secured commercial paper and corporate bonds. These purchases and sales are an example of the Bank acting as market maker of last resort. Although small in scale in comparison to gilt purchases, when financed by the issuance of central bank reserves, these purchases count towards the total amount of asset purchases authorised by the MPC.

Appendix 2 Earlier Web Posts

The UK is in a liquidity trap - say no to more QE on planet ZIRP : October 09, 2011

Last week, the Governor of the Bank of England said This is the most serious financial crisis we have seen since the 1930s, if not ever. Well is it? Just like the 1930s the UK is in what we call a liquidity trap, a situation where monetary policy is unable to stimulate the economy either through lowering of interest rates or increasing money supply.

Liquidity traps occur when rates are reduced to the zero bound or thereabouts and cannot be reduced further. In real terms UK rates (base rate minus inflation) are negative 4% plus.

The liquidity trap is compounded when expectations of adverse events, either deflation or in the current situation, a lack of aggregate demand, are manifest. Firms are loathe to invest, households are constrained to spend, government spending is limited by a desire to resolve a fiscal debt crisis.

In the UK, the first round of Quantitative Easing or asset purchases was essential to improve liquidity in the banking system at a time of crisis.

Inter bank lending was desiccated, LIBOR spreads were extending. The central bank was becoming not just the last lender of resort but the only lender of resort. Action had to be taken to inject cash into the economy by undertaking a series of asset purchases predominantly gilts. The programme of some £200 billion was equal to 14% of GDP it had to be done.

This is not an argument for more asset purchases, for the exercise came at a price. QE forces up bond prices, pushes yields lower, punishes savers, places more pressure on sterling, increases import prices, leads to higher inflation, greater pressure on real incomes, a reduction in household spending, actually reduces demand and leads to lower growth.

Ten year gilt yields have fallen to 2.4% and thirty year gilt yields have fallen to 3.4%. But what does that mean? Gilts are mis priced, the real risk return on ten year gilts is negative.

Effectively investors are paying the government to hold bonds.

Policy makers assume that lower interest rates at the longer end of the curve will lead to a higher level of investment. This is not the case. Any return on investment or payback calculation is a function of cash flows from a determined demand horizon.

Cost of capital does not feature in the basic investment model. Until the uncertainty about the forward level of demand and growth is cleared, investment plans will remain on the shelf.

The Bank of England suggests that QE increased GDP by between 1.5% - 2.0% but also led to an increase in inflation of between 0.75% and 1.5%. [Joyce M et al in the September Bank of England Quarterly Bulletin.] This is a highly speculative analysis.

If it were right, this would mean, that at best, the QE2 round of £75 billion would kick growth by just over 0.5% but increase inflation by over 1% on a pro rata basis according to the banks own figures.

One cannot be entirely confident in the bank's hypothesis. QE led to a fall in gilt yields as a first round effect but thereafter the relationship between QE and the effect on growth and inflation is tenuous. The argument for further QE is intellectually weak and at best the potential economic impact minimal. The risks outweigh the return.

In fact I would argue that a further round of asset purchases merely oils the liquidity trap, digging a deeper hole, increasing the inflationary impact and reducing growth as investment plans are reigned back and household incomes are placed under greater strain. Sometimes the correct action is to do nothing, especially when it is more of the same toxic solution.

In 2008, writing about a zero interest rate policy, I wrote "Welcome to planet ZIRP. Unfortunately, we do not have a handbook, or fully understand the terrain. Our process of quantitative easing, the plan to helicopter money may work but as a fire fighting option, it may be like dropping water into a desert, such are the fissures in the

financial system." We just don't really know what is achieved. So in the meantime we should say no to more QE and or asset purchases.

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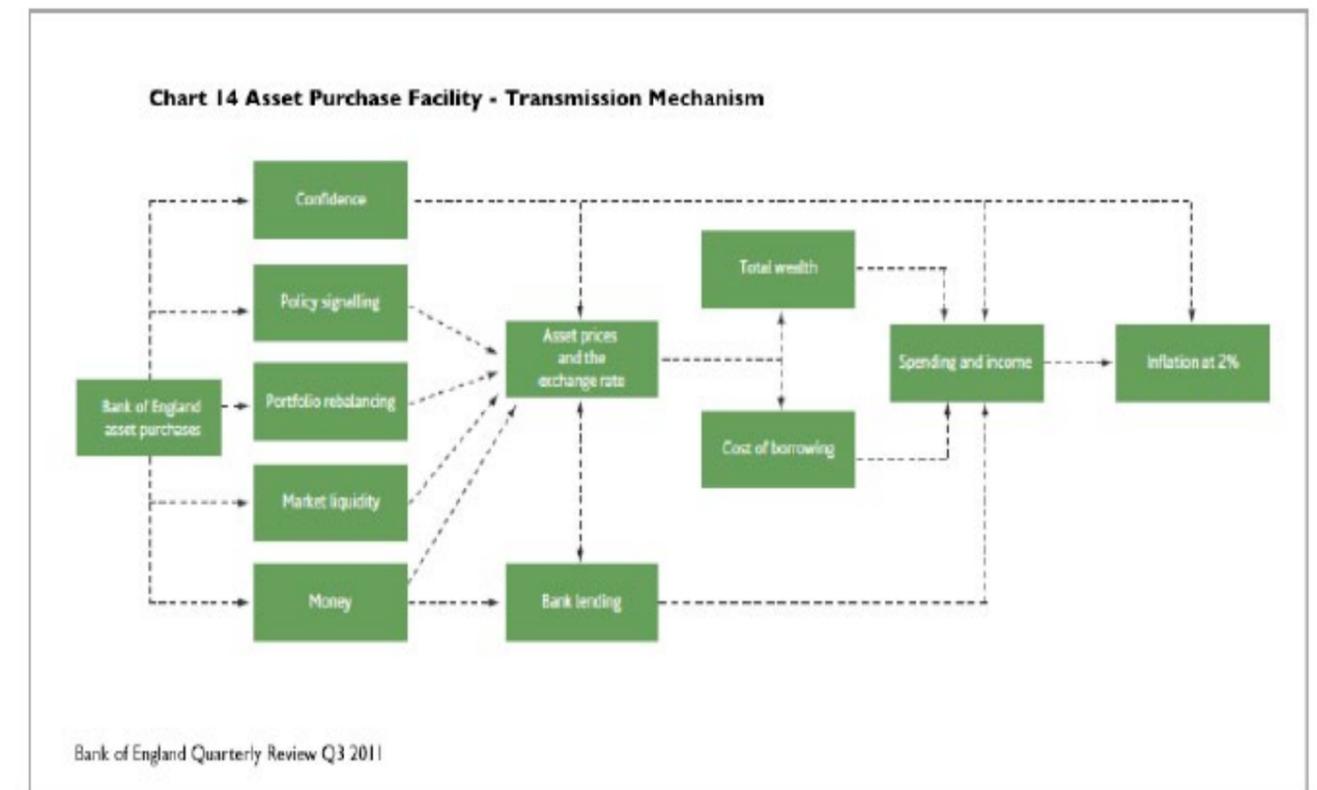
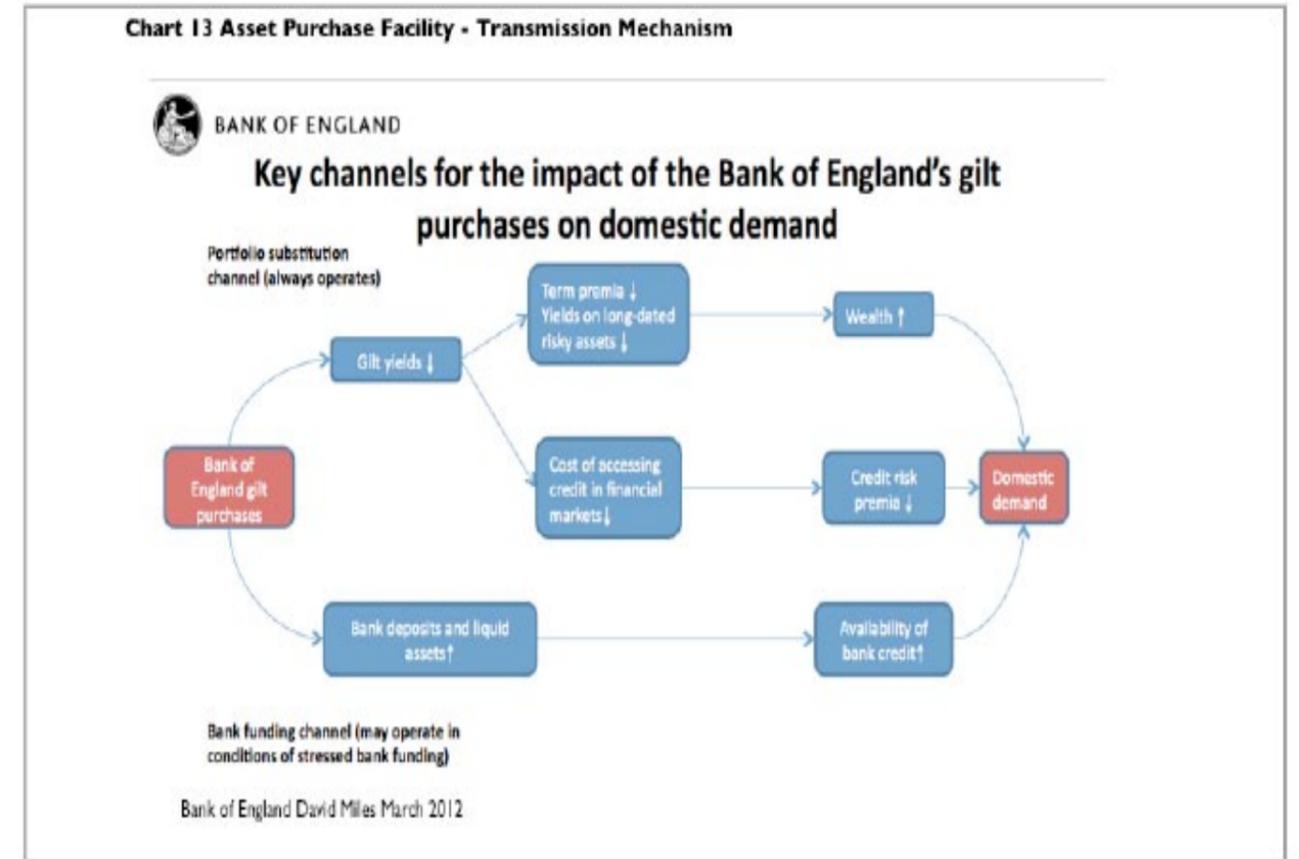
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