Credit where it’s due:
Making QE work for the real economy

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Executive Summary

‘Quantitative easing’ (QE) is the Bank of England’s attempt to boost the economy once interest rates hit zero. £200bn of new Bank reserves has been created to increase the money circulating in the economy and to boost spending. The Bank’s balance sheet has grown from a little larger than that of a provincial building society to several hundred billion pounds. Today, the most important investor in the country is a public servant in Threadneedle Street.

Notwithstanding the vast sums deployed, the real economy suffered a steep fall in 2009, contracting by a full percentage point more than the government predicted in its Budget that year. While France and Germany have returned to growth (without the use of quantitative easing) the UK has suffered two more quarters of recession. Bank lending has failed to pick up, and broad money growth remains weak. The one area where QE has proven least effective is the one the Bank set out to influence: to increase the money and thereby boost spending.

Governor Mervyn King describes the policy as “a natural extension” of conventional monetary operations. However, despite its weak influence on spending in the economy, QE has produced a range of powerful side-effects that are far from natural. In the nine months since the programme began, the government has sold more debt than it has ever sold in a year – and yet at relatively low borrowing costs. Asset prices have staged an extraordinary rally: house prices are increasing once again, and shares have risen by over 50 per cent. Investment banks have enjoyed a bumper year, once again paying out massive bonuses as if the crash had never happened.
If the influence of QE on economic growth is difficult to see, its other consequences raise real issues that, unlike interest rate decisions, cannot be ignored by politicians. Above all, the policy blurs fiscal and monetary policy. The fact that the government has been able to borrow cheaply at a time when emergency spending was needed is clearly to be welcomed. But now the Treasury is in the awkward position of having to rely on the central bank for the sustainability of its fiscal position. Ultimately, this relationship will threaten either the Bank’s operational independence, or that of the government itself.

The programme has also created a skewed distribution of beneficiaries. On the one hand, QE has been a boon for larger companies and the financial sector in general. Raising money through corporate bond issuance has become far easier. With cheaper wholesale financing and soaring asset prices, profits in the City have been high. For people with plentiful assets, 2009 was a good year; the typical share portfolio or London house is nearly back to its pre-Lehmans levels. On the other hand, the positive effects of QE remain virtually invisible to most ordinary households and small companies, who struggle to discern any greater availability of money, since the retail banks are still weak and reluctant to lend.

In many ways, QE has acted like a large subsidy to the financial sector and the wealthy. But unlike the bank bailouts, which could be audited, these subsidies are largely obscured, the winners are generally unrecognised, and the taxpayers largely left in the dark. Perhaps our monetary policy makers believe that the only way to save the economy was to unleash forces that increase wealth inequality and favour one part of the economy over another. But if this is their view it should be debated – and damaging side-effects mitigated.

It is possible that Britain will clamber out of its slump with such vigour that this experiment can be wound down. However, there is a significant risk that the economy will remain weak or even return to recession. Fiscal resources are stretched to breaking point; unlike in 2008, the government will be taking demand out of the economy over the next few years.
Should the UK lurch back towards recession, it is essential that QE becomes an effective stimulant and not just a tonic for the City. To this end, we make the following recommendations:

- The Bank should explicitly target nominal growth for the duration of the slump. The current narrow focus on inflation leaves the markets expecting the withdrawal of QE before it has become effective. Such expectations badly undermine the policy. An explicit announcement of a high nominal growth target will help convince the economy that liquidity will remain available for long enough to reassure (and therefore encourage) investors.

- Monetary and fiscal policy need to work together to be effective in a low inflation slump. This means the Treasury converting some quantitative easing into ‘credit easing’. Some of the funds should go towards a new ‘Credit Risk Fund’ that makes investments aimed at specific failures in financial markets and has a more immediate effect on demand.

- ‘Credit risk’ money could be usefully invested in many areas of the economy still struggling from a credit crunch, such as loan guarantee schemes that have already proven a success; funds offering finance to smaller companies; a National Infrastructure Bank; and further infusions of equity into the banking sector.
The context

In ‘A balancing act: fair solutions to a modern debt crisis’ CentreForum argued that it was right to use fiscal policy to support the economy as it toppled into recession.¹ If the government had embarked on an austerity programme at the same time as the private sector, an already steep downturn would have turned into a spiralling depression.²

However, now that the economy seems to have passed its nadir, the sheer size of Britain’s deficit may have left fiscal policy exhausted. The party conferences in the autumn before the election were dominated by arguments about how to cut public spending and reduce borrowing. Only the vital question of timing still divides the parties; CentreForum has argued that a slower pace of government consolidation would be optimal.³ But it is generally agreed that monetary policy is the sole remaining tool for providing a sustained stimulus to the economy. Unfortunately, the conditions that allowed monetary policy to perform this function have changed.
1. How we got here: from inflation busting to quantitative easing

Monetary policy is largely concerned with affecting aggregate demand in the economy – what people are willing and able to buy. The recession of 2008-09 is widely regarded as having resulted from a demand shock brought by deteriorating liquidity, a sharp fall in asset prices, and a panic induced rush towards higher savings.

Normally the central bank influences demand by altering the cost, quantity and availability of money. In the UK the normal tool for boosting demand is the Bank of England’s interest rate. This is how the Bank described the normal mechanism:

- The Bank’s policy rate “affects the whole range of interest rates set by commercial banks, building societies and other institutions for their own savers and borrowers.”
- Lower rates make saving less attractive and borrowing more attractive, which then stimulates spending.
- Rates also affect the price of financial assets such as bonds, shares and even house prices. Higher asset prices make it easier to raise finance to invest. They also increase wealth, which can lead to higher personal consumption.
- Borrowers tend to spend more of any improvement in their cash flow than lenders. Lower interest rates divert money from savers to borrowers, increasing spending in aggregate.
- Finally, the overall effect of monetary policy will be more rapid if it is credible – that is, promises about future actions are generally expected to be kept.
For most of the post-war period the challenge was controlling inflation. This was always more of a political than a technical problem. Central banks can always restrict economic demand if they want: their ability to raise the risk-free interest rate is only limited by political will. However, until 1997, governments controlled the Bank of England, and electorates tended to reward policies that expanded demand, rather than controlled inflation. Anticipating this, workers and businesses would put in ever higher wage demands and price rises, in the knowledge that the government of the day would accommodate them through loose monetary policy, rather than risk an election-losing recession. Consequently, promises to act against inflation lacked credibility.

This lack of credibility was eventually solved when the newly elected Labour government made the Bank of England independent, with a statutory mandate to keep inflation low. Since then, the Bank has not needed to take extreme steps to deliver low inflation. The base rate remained within a relatively narrow band for 15 years (see Chart 1).

Since 2007, the UK’s monetary policymakers have had the opposite problem. In general, no-one doubts the Bank’s political desire to achieve steady inflation and economic growth: but

**CHART 1: INTEREST RATES BEFORE THE CRUNCH**

![Interest Rates Chart](chart1.png)
the financial crisis that started in August 2007 robbed it of the tools to do this. Many of the normal monetary mechanisms have been directly damaged by the credit crunch:

- Broader interest rates have become detached from the Bank’s policy rate. During the worst period of the crunch, short term interbank rates soared as banks and money market funds stopped trusting each other, even as base rates were cut. The spread between shorter and longer rates widened, as did the gap between long term government bonds and corporate bonds.

- Even after the interbank lending market stabilised, credit availability continued to weaken, because banks with pressure on their capital ratios were eager to focus on debt minimisation instead of profit-maximisation. Foreign lenders also left the UK (see Chart 2). Anecdotal evidence of ‘good’ companies being unable to access finance proliferated, despite the policy rate.

- The Bank lost control over economic expectations. No longer could it assert its determination to achieve steady growth and low inflation, and expect everyone to act as if this achievement was inevitable. Even before the recession, a burst of inflation largely caused by soaring energy and commodity prices had raised broader expectations. As the economy weakened in 2008, it would have taken considerable courage to loosen monetary policy, given the complaints about soaring living costs. But once confidence collapsed after the Lehman Brothers bankruptcy, it didn’t matter what the Bank said about future inflation; ordinary consumers and businesses were unsure about whether their money was safe, and had an overwhelming preference for preserving capital rather than spending.

This ineffectiveness was apparent last autumn and winter. After a decade of quarter-point movements, the Bank dropped interest rates from 5 to 0.5 per cent within six months. Despite this, the UK economy fell into a deep slump, with GDP falling by 4 per cent in half a year, and expectations of future inflation taking a dive.
CHART 2: LENDING TO THE CORPORATE SECTOR BY OWNERSHIP OF UK-RESIDENT BANKS

CHART 3: EXPECTED 3 YEAR FORWARD INFLATION FROM THE MARKET
Furthermore, even when the Bank did start to address cratering economic demand, the problem of the ‘liquidity trap’ soon loomed. Normally, the central bank can induce extra spending by supplying more money than people want to hold. This works because money itself produces no return, and there is an opportunity cost to just sitting on it. If prices are rising and the economy is growing, a central bank pushing more liquidity into the economy will normally cause increased economic activity. But when prices are stagnant or falling, and growth prospects appear weak, there is less incentive to spend or invest. It pays to put off purchases until prices are lower, and so people are much happier to hold increased amounts of money. This is particularly the case after an event like a credit crunch, when the prospects for the economy are uncertain and the security of many assets doubtful. There may be no nominal return to holding money, but there is also little cost: interest rates can’t be negative – people always have the alternative of storing physical cash. Banks in particular become indifferent to having extra cash or more interest-bearing assets.

So if the economy starts suffering from deflation, even interest rates of zero won’t induce people to spend or invest – and as a result monetary policy seems to lose its usual ability to affect economic demand. It is called a trap because once in place the internal dynamics of low expectations and deferred spending perpetuate and exacerbate the problem.⁶

Economists have long discussed the theoretical problem of monetary policy when interest rates hit zero.⁷ Perhaps the best known contribution to this debate was a speech by the current Chairman of the Federal Reserve, Ben Bernanke, in 2002. He proposed some unconventional monetary policy tools for fighting a liquidity trap. Amongst his recommendations was to increase the supply of money in the economy by buying assets. He argued that a central bank’s ability to produce inflation ought to be as unlimited as its ability to print money:
“By increasing the number of U.S. dollars in circulation, or even by credibly threatening to do so, the U.S. government can also reduce the value of a dollar in terms of goods and services, which is equivalent to raising the prices in dollars of those goods and services”.

If the central bank can convince economic agents that inflation is imminent, the real interest rate – the actual rate minus expected inflation – is reduced, which should encourage additional spending, jolting the economy out of the deflationary trap. Bernanke acquired the nickname ‘Helicopter Ben’ for this prescription; this is itself a reference to a comment by Milton Friedman that a ‘helicopter drop’ of money into the economy could always cure deflation.

In early 2009, the risk of deflation was sufficiently great that the Monetary Policy Committee of the Bank of England (MPC) took the formal decision to initiate QE – although because of the potential losses involved, a formal exchange of letters between the Governor and the Chancellor was required before doing so. Quantitative easing appeared very close to what Bernanke recommended – to increase currency in circulation by buying privately-held assets with new reserves.

To carry out QE, the Bank created reserves and lent them to a newly-created entity called the Asset Purchase Facility (APF), which then bought various kinds of bond on the open market. The APF was set up to buy £50bn of ‘high quality private sector assets’ – the debt of private companies – in order to stabilize credit markets. Originally, this was to be financed by issuing short-term bills, not through the creation of money. But the possibility was there from the outset that the APF might be used to push freshly created banking reserves into the economy to fulfil monetary policy objectives.

The MPC’s minutes for March 2009 described its thinking about this new policy departure:

The Committee agreed that such purchases were necessary in order to increase nominal spending growth to a rate consistent with meeting the inflation target in the medium term. Such operations were a natural extension of the Committee’s usual monetary policy operations.
However, the mechanisms by which asset purchases might influence spending were presented in a highly speculative way. Bernanke’s recipe for renewed inflation may be theoretically viable, and had clearly been observed in extreme circumstances: after all, there have been numerous examples of economies resorting to the printing press in a crisis, with highly inflationary results. But there have been few instances of it actually happening in a modern developed economy in any sort of controlled manner: Japan’s attempt in the early years of this century was largely adjudged a failure.

Aware of these uncertainties, the Bank has tried to explain how quantitative easing might work. As well as publishing a leaflet entitled ‘Quantitative Easing Explained: Putting more money into our economy to boost spending’, the policy has been explained in numerous speeches by senior staff. A Quarterly Bulletin produced in mid-2009 added more detail, explaining that the policy was aimed at:

- increasing **asset prices**, reducing their yield and therefore encouraging households and businesses to seek higher returns elsewhere;
- increasing **wealth**, including the ability of people to use assets as collateral for lending;
- improving the **liquidity of various private markets** such as corporate bonds;
- increasing the volume of **liquid assets** in the economy, which ought to encourage banks with new reserves to lend them out;
- improving **expectations**: by demonstrating the limitless resolve of the MPC to achieve its inflation target.

The Bank’s most consistent theme has been that of QE’s positive influence on credit conditions for companies. Against this, senior staff have been remarkably silent about the role of expectations as a positive source of stimulus. There have also been clear differences of emphasis between speakers and across time (see Appendix 2). For example, during the earlier months, there was generally more faith in QE acting
as a boost to bank lending. Subsequently, speakers such as Chief Economist Spencer Dale have modified their views on the effectiveness of this channel. There are also clear disagreements between policymakers as to the significance of increased levels of money, with Mervyn King emphasizing this aspect, but newer members of the MPC such as Adam Posen and David Miles denying the importance of monetary aggregates, and emphasizing the structural reform of finance as its major beneficial result.

**CHART 4: HOW THE BANK THINKS QE SHOULD WORK**
Unconventional policies elsewhere

The Federal Reserve Like the Bank of England, the Federal Reserve in the United States has massively expanded its balance sheet in order to purchase privately held assets. However, far more of the Fed’s purchases have been of assets backed by private issuers – in other words, not government debt. As of 25 November 2009, it held $1,784 billion in securities, only $777 billion of which were US Treasury securities. The bulk of the remainder were mortgage-backed securities, although at least $100 billion has been devoted to lending in markets where there is some credit risk.

Ben Bernanke has been explicit in terming the Fed’s actions as ‘credit easing’ and not ‘quantitative easing’. In his words, “the Federal Reserve’s credit easing approach focuses on the mix of loans and securities that it holds and on how this composition of assets affects credit conditions for households and businesses”. The US central bank’s explicit strategy has been to address markets where the provision of credit has become impaired, rather than just increasing the quantity of money in circulation. The Term Auction-Backed Securities Loan Facility (TALF), for example, operated by the Federal Reserve Bank of New York, lends money to investors buying securities backed by student loans, auto loans and credit cards. In effect, such actions are aimed at restarting some of the markets, the failure of which triggered the financial crisis.

The European Central Bank Lacking a fiscal authority to make good any credit-related losses, or as well-developed a market in securitized debt obligations, the ECB has been unable to take similar steps to the Fed. However, it has taken on credit risk in a different way, by offering one-year collateralized loans to the eurozone banking system at a fixed rate of 1 per cent. Without central bank support, it is unlikely that banks would have been able to secure funds at such a cheap rate for such a long duration.
2. Has QE worked?

Despite its vagueness about mechanisms, the Bank’s explicit intention for QE was to increase spending in the economy, and it is by this metric that this paper first analyses the policy. The recession saw spending in cash terms fall faster than for many years (see Chart 5).

As discussed in Appendix 1 (‘Insufficient demand, and its causes’), a credit crunch can drive spending too low for a variety of reasons. A banking crisis often contributes to
a collapse in the money supply, leaving businesses and consumers with insufficient liquid resources. Banks may have too little capital, so that even with plentiful liquidity they are unwilling to make this available to the wider economy. Finally, depressed economic conditions and weak asset prices may undermine incentives to increase spending, even if the means exist for doing so.

**IMPROVING FINANCIAL CONDITIONS: THE BANKING CHANNEL**

For most people, the credit crunch means the banks not lending money to households and businesses. In fact, the crisis began when money market investors were suddenly unwilling to lend to banks, which then inevitably led towards a contraction of credit to the wider public. Given the central role of banks in the UK financial system, only the most uncompromising of monetarists believe that spending levels could survive unscathed by a sudden withdrawal of current and future bank lending.  

If a lack of liquidity had been the sum-total of the banks’ dilemma, quantitative easing or other operations like the Bank’s Special Liquidity Scheme might have solved the problem. By autumn 2008, however, the financial sector had begun to suffer from inadequate capital. The collapse of the investment bank Lehman Brothers led to widespread investor distrust and crashing share prices. Interest rates in the interbank lending market soared, and the amounts lent dried up. In October 2008, equity infusions from governments worldwide helped to stave off widespread bankruptcy. However, write-downs on deteriorating assets continued to mount during the winter as the recession and a falling housing market took its toll on the value of outstanding loans. According to the IMF’s Global Stability Report of April 2009, worldwide financial sector write-downs grew from about $1.5 trillion to $2.7 trillion in six months. This left the banking sector with perilously low reserves of capital.

Both regulation and prudence dictate that banks should keep a sufficiently large cushion of equity capital as a buffer
against losses. In addressing the question of how to reshape finance, the G20 forum of global leaders and finance ministers agreed that higher future capital requirements will be needed. The FSA has estimated that from 2011 UK based financial institutions will need an extra £33 billion to follow new rules on securitizations and trading assets.\textsuperscript{16} All such demands on capital have damaged bankers’ willingness to make greater long-term commitments, lest they be forced to engage in expensive equity raising.

Simply increasing banking reserves does not increase banks’ willingness to make loans. As two experts appraising unconventional policies have argued, “the level of reserves hardly figures in banks’ lending decisions . . . an expansion of reserves in excess of any requirement does not give banks more resources to expand lending”.\textsuperscript{17}

\textbf{CHART 6: GROWTH RATE IN LENDING TO INDIVIDUALS}
Another reason to doubt the effectiveness of QE via the banking channel is that banks need to worry not only about current liquidity conditions, but those that will arise in the future. Despite huge increases in reserves, business organisations like the CBI expect increasingly tight credit conditions, and have called for new structures to facilitate providing finance to smaller companies.\textsuperscript{18} Many financial decision makers do not expect QE to last more than a couple of years, and are therefore unwilling to rely on it in their investment decisions. Deutsche Bank has identified funding challenges, and not capital, as the largest risk to banks and one that might cause a rationing of credit.\textsuperscript{19}

In the near future banks everywhere will have to refinance huge quantities of existing assets; the credit rating agency Moodys estimated that $7,000 billion of short-dated debt will expire worldwide in the by 2012.\textsuperscript{20} UK banks have been particularly reliant on wholesale sources of liquidity, and need to refinance over £1 trillion from the wholesale markets, including hundreds of billions currently supported by the Credit Guarantee Scheme and Special Liquidity Scheme.\textsuperscript{21}

This is why it is unhelpful that the Bank has regularly voiced its intention to withdraw QE sooner rather than later. As Paul Fisher, Executive Director of Markets, said recently:\textsuperscript{22}

“The Bank has to be able to both put liquidity into the system and take it out again, whenever that proves necessary. So the Bank could never create a stable medium-term funding source for commercial bank lending, even if we thought that was our job. Which it is not.”

The oft-stated impermanence of QE may have reduced the incentives for commercial banks to use increased reserves for new lending. No bank wants to take a risk on longer term, illiquid assets, and then find itself unable to refinance its position in the near future except at heavy cost.

As a result, it is unsurprising that the desired effect of QE on broader bank lending conditions has been hard to detect. The MPC took note of the continued ‘restricted supply’ of bank lending in the summer of 2009, and the high spread of new lending rates over LIBOR (see Chart 7).
Analysis of the Bank of England’s regular Credit Conditions Survey shows that availability continues to weaken for households looking for unsecured credit, while larger companies are gradually seeing an improvement in terms (see Chart 8).
Since March 2009 there have been some selective improvements in bank lending conditions, but they have been marginal and have had little effect for the households and small businesses which make up most of the demand in the economy. Credit card debt is as expensive as ever. The volume of loans remains low, although in a weak economy it is not easy to determine how much this is caused by restricted supply. The British Bankers’ Association has been emphasising its members’ continuing efforts to increase lending, and blames weak demand; the British Chamber of Commerce acknowledges the weak demand, but highlights continuing concerns about supply.23

As Appendix 2 shows in more detail, the Bank’s official pronouncements have increasingly downplayed the significance of the banking sector as a direct channel for QE to be effective. If the Bank ever held out much hope for the policy to have a significant impact in this channel, it seems it no longer does.

**IMPROVING FINANCIAL CONDITIONS WITHOUT THE BANKS**

Some influential monetarists argue it is wrong to accord bank lending such a great role in monetary transmission – what Professor Congdon calls the fallacy of ‘creditism’.24 Instead, national income depends on the quantity of money, and all that is needed is for money to be increased for income to eventually recover, albeit with a lag.

The Nobel-prize winning monetarist Milton Friedman was so convinced of the centrality of money in determining economic growth that he drove a car with the personalised licence plate:25

\[
MV = PY
\]

This equation means that \( M \), the quantity of money, multiplied by \( V \), the velocity of its circulation, is equal to \( P \), the price level, multiplied by \( Y \), real output in the economy. A mechanical kind of monetarism argues that if you increase \( M \), then \( PY \) will increase: increasing money boosts either prices or output, and most likely a combination of the two. In ‘How to stop
the recession’, Professor Congdon explored how corporate liquidity in particular can drive growth. He noted how shifts in the corporate liquidity ratio can correlate with private sector demand. Since 2002, higher capital investment has generally followed when corporate liquidity is higher, as Chart 9 shows.

Intuitively, this makes sense; companies that have uncomfortably low levels of cash relative to their outstanding borrowings are likely to restrict investment so as to conserve cash. This is particularly likely in circumstances like those of 2008, when doubts about the availability of lending and the trustworthiness of securitization markets gave finance officers everywhere reason to pause.

Such monetarism clearly identifies one important factor in explaining corporate investment decisions, but most

CHART 9: THE RELATIONSHIP BETWEEN CORPORATE LIQUIDITY AND INVESTMENT SINCE 2002
economists would see a reliance on money quantity as the sole predictor of economic growth as an over-simplification. Another look at Chart 9 shows that the overall level of the liquidity ratio explains just a fraction of investment behaviour. From 2008-09, roughly similar levels of corporate liquidity have correlated with a large range of changes in investment. The very simplicity of the monetarist statement – money determines spending – hides a huge range of difficulties and necessary structural preconditions.

The first is that the Bank of England does not straightforwardly control the level of corporate liquidity. All it can determine is the quantity and cost of base or ‘narrow’ money – that is, reserves at the central bank plus notes and coins. Its risk-free cost is currently as low as it can be. As for quantities, we have already observed that bank reserves do not directly drive bank lending, nor by implication broad money, which is what actually ‘does the work’ in the economy. Broad money includes the deposits that banks create for their customers. The ratio between broad and narrow money is the ‘money multiplier’. At the end of 2007, narrow money was about £72 billion. The measure of broad money that the Bank watches most closely, called ‘M4x’ – which excludes volatile lending between financial companies – was about £1.5 trillion, suggesting a pre-crisis multiplier of about 20.27

Mechanical monetarists need both the money multiplier and velocity to be predictable, if changes in the monetary base are to prove a reliable tool for macroeconomic management. Unfortunately, the search for reliable monetary relationships has taxed many bright economists to no avail. In the 1980s, attempts to control inflation through monetary aggregates were derailed by financial innovation, because new instruments allowed people to settle bills or acquire claims on one another in new ways. More recently, the M4x multiplier has demonstrated similar fragility (see Chart 10).

As a result, broad money has remained roughly static since the beginning of the recession despite the huge increase in the supply of banking reserves (see Chart 11).
Banking reserves are just one factor affecting the supply of broad money. Demand factors play a large part; if private individuals wish to repay loans, then broad money will fall, even if banks are willing and able to lend more. In the jargon, during a recession money may be ‘endogenous’ – its quantity being determined by economic activity rather than the other way round. To use a crude analogy: a shortage of chairs may limit the popularity of a restaurant when customers are queuing up, but endlessly adding more chairs does nothing to bring business to an unpopular restaurant.

The second vital unknown is the behaviour of velocity, which is also volatile, particularly when interest rates are low. As we observed earlier, when inflation and economic growth are expected to be stagnant, there is little ‘penalty’ for doing nothing with money. Changes in expected output may be driving behaviour in monetary variables like the multiplier and velocity, as argued by Keynesians such as Professor DeLong.  

Given such variability in the factors linking money to nominal output, there clearly needs to be a more detailed explanation of how increased money boosts output. Professor Congdon provides one, describing how major institutions use extra cash to buy securities, which boosts equity prices, and then enables large companies to raise money more easily. Such strong companies then use their extra money to accelerate the payment of bills to weaker companies that can’t access the markets themselves, or offer them credit. Eventually, by a similar process, the available cash reaches households. In the end, as Professor Congdon notes, ‘The cash strains throughout the economy are eliminated, asset prices recover, and demand, output and employment all revive’.  

But such a ‘trickle-down’ of finance from large quoted firms to the rest of the economy is plagued by unpredictability, particularly when the economy is depressed. Companies may use cash to repay liabilities to smaller firms, or to extend more credit to their customers. However, they may instead repay bank debt, leaving the mechanism again relying on the banking system. As Chart 12 shows, trade credit is dwarfed by the contribution of major financial institutions.
Perhaps the monetarist mechanism works in the very long run. But with a prolonged recession threatening to render obsolescent both ordinary and human capital, the long run is not soon enough.

The year 2009 disproved the idea that QE will quickly restore growth. In February, Professor Congdon wrote:

Roughly speaking, operations of the necessary size – say, £100bn to £200bn of asset purchases – can add 5 to 10 per cent to the quantity of money in a few months... company bank deposits might jump 10 to 20 per cent by the summer, ending the recession with surprising speed.

Since then, despite £200 billion of QE, corporate liquidity ratios have increased by just a couple of percentage points, showing just how overconfident such projections were. For corporate liquidity to have risen as fast as this theory required, up to twice as much QE may have been needed.
Ultimately, the problem is that the structural preconditions for funnelling extra money towards those who need it are simply not there. Banks currently account for over 80 per cent of finance to households and the corporate sector. Without a functional banking system, finance is hard to access. Adam Posen, the newest member of the MPC, has commented on this problem, drawing attention to “The relative underdevelopment of alternative non-bank channels for getting capital to non-financial businesses in the UK.” He concluded that “we should be concerned that the banking structure in the UK may impede credit flowing more broadly in the recovery”.  

There is a general awareness of these structural difficulties, which the government has been keen to address. However, without prolonged and vigorous action, these aspirations are a long way from being achieved. In the meantime, for many activities there is not a realistic alternative to banking. In a textbook economy, increased money would cause finance to flow smoothly to every company that has a profitable use for it. In reality, the trickle-down of cash from the big to the small is haphazard. No matter how much money is pumped in at the top, not enough is reaching those at the bottom.

**BOOSTING DEMAND: LIFTING WEALTH AND EXPECTATIONS**

The Bank clearly acknowledges that QE can only partially improve financial conditions in the economy. But the availability of finance may not be the problem; in Europe, banks have recently demonstrated an unusually low appetite for further liquidity from the ECB. If households and firms are not eager to spend and invest, then an insufficient supply of funds to help them do so is immaterial. In fact, evidence from surveys during the depths of the recession suggest that even for those with access to finance, it may have been concerns about insufficient demand that undermined investment intentions (see Chart 13).

As economic historian Lord Skidelsky has written: “The volume of investment depends not just on the cost of borrowing but
on the expectation of profit. Recessions are the result of a collapse in profit expectations. And it may be that no feasible reduction in interest rates can revive profit expectations sufficiently to produce a robust recovery”.35 A lack of demand during the deeper parts of the recession was apparent from the Bank’s credit conditions surveys (see Chart 14). Only demand for credit-card loans held up – perhaps because other forms of credit were being withdrawn.

The Bank’s normal method for boosting demand is to lower interest rates. This makes borrowing to spend more attractive, and also increases the disposable incomes of people with variable rate mortgages and other such loans. However, most of this advantage had already been taken by the time interest rates hit 0.5 per cent in March, and as Chart 7 shows, there has been little further fall in rates since then. Moreover, lower rates hit the income of people reliant on savings – household interest rates for savers have fallen further than for borrowers. QE does little to help through this mechanism.
There are two other methods of boosting demand worth investigating. The first is to increase asset prices and encourage people to spend through the wealth effect. As the next chapter shows, the period since the beginning of QE has seen an astonishing turnaround in asset markets. But while a sustained asset price collapse can certainly damage consumption – by throwing people into negative equity, for example – the ability of increased asset prices to improve demand is more difficult to predict. Some recent research has found that the short-run marginal propensity to consume out of higher wealth is about 5 per cent – that is, if a household becomes £100,000 richer, it may increase its spending by £5000.\textsuperscript{36} However, this effect is largely restricted to financial wealth, not housing wealth; this makes sense because higher house prices also reflect an increased cost.

Unfortunately, financial wealth is only enjoyed by the richest families. In 2003, securities represented only 10 per cent
household wealth, and only about 5 per cent of the wealth of the poorest half of the population. If this distribution remains typical, the asset recovery of the last year can only have affected a small minority that tends not to suffer from financial constraints in any case. Perhaps the luxury goods sector will have been helped; anecdotal evidence suggests that the market for Bentley motorcars, top London properties and fine art never really dipped despite the downturn.\(^\text{37}\) Nobody can expect a trickle-down from such a niche to be significant in boosting spending in the rest of the economy.

The second way of boosting demand is to work directly on expectations of the future behaviour of the economy, as Bernanke called for in 2002.\(^\text{38}\) This approach is particularly relevant when interest rates are so low that the real rate can only be lowered by increasing expectations of inflation. If the central bank can make a commitment to creating higher prices in future, it ought to induce more activity and lift aggregate demand.

In the first decade of the Bank’s independence, it was often stated that what mattered was central bank credibility, rather than any specific mechanism for controlling spending.\(^\text{39}\) In an economy full of rational, financially unconstrained participants, things happen if it is believed they will happen. The Bank of England explicitly included expectation management when describing how QE might work. They claimed that asset purchases help to demonstrate that “the MPC will do whatever it takes to meet the inflation target”.\(^\text{40}\)

However, ‘credibility’ was a word normally used for the fight to reduce inflation. In the 1980s, central banks worldwide had to demonstrate a refusal to let prices rises uncontrollably, despite some short-term advantages of doing so. As discussed earlier, winning this fight was not a technical so much as a political achievement: insulating the central bank from the pressure to keep employment and output high at all times. Contracting demand through monetary tightening is ‘pulling on a string’. Once the public learnt that central banks can pull this string as hard as they need, and actually will if they are mandated to, inflation became much easier to control.
Even so, it took several attempts before the public was convinced: credibility did not leap into existence, fully formed, out of a monetarist textbook.

Nevertheless, recent history provides some cause for believing that the Bank’s inflation target has anchored public perceptions to a remarkable degree. Market expectations were extremely stable in the years leading up to the credit crunch (see Chart 3). Moreover, regular surveys of public attitudes found expectations of inflation relatively steady. For six years, expectations of inflation remained rooted between 2 and 3 per cent (see Chart 15).

That expectations of inflation fell so quickly despite soaring prices in the summer of 2008 might be taken as proof of the Bank’s credibility in targeting 2 per cent inflation. However, looking at the charts, it is quite possible that the public had simply been extrapolating the last year’s figures to the next year, rather than weighing the Bank’s commitment to stable prices. 2008 was a stark exception; in August of that year, the public perceived inflation to be 5.4 per cent, but expected it to
fall to 4.4 per cent. This gap grew as the recession took hold (see Chart 16). So arguably neither the long period of placid expectations nor the sudden drop in 2008 indicate great faith in the power and credibility of central banks.

In fact, it is more likely that the sudden drop in expectations showed how credibility in the fight against inflation has little relationship to the reputation for being able to stimulate a deeply depressed economy. The unique circumstances of a credit crunch followed by a deep global contraction are a difficult time to establish such a reputation for the very first time – to expect the wider economy to believe, in the words of Professor Sumner, that “under a fiat money regime... policy-makers can hit any nominal GDP target”.41 The public or markets may need to learn from example. But there is no recent example of a central bank stimulating the economy out of a depression. In fact, the most widely discussed depressed economy, Japan in the 1990s, is popularly held up as proof of central bank impotence in the face of depressed conditions.

**CHART 16: DIFFERENCE BETWEEN PERCEPTIONS OF PAST AND FUTURE INFLATION**
There are several reasons why the Bank’s outward determination to do ‘what it takes’ to hit a 2 per cent inflation target may fail to shift demand. The first is that in a relatively open economy a significant contribution to inflation stems from international commodity markets, which the Bank can do nothing about. As summer 2008 demonstrated, the Bank can be fulfilling its remit while the economy remains weak. Telling a member of the public ‘we are doing all we can to keep inflation at 2 per cent’ may translate into ‘we don’t need to do very much at the moment.’

A second, related problem is that people do not necessarily associate higher inflation with a stronger economy; on the contrary, it is more commonly seen as a problem. The distinction between demand- and supply-induced inflation is not apparent to ordinary consumers. Often, what is expected is a rise in the cost of living, not a growth in useful demand.

What economic participants need to hear is not that inflation *per se* is going to be higher, so much as *nominal growth*.

**CHART 17: WHAT MEMBERS OF THE PUBLIC THINK INFLATION WILL DO TO THE ECONOMY**
Employees would like to hear that wages will be higher. Businessmen want to hear that demand for their products is growing, not that their suppliers will be charging higher prices. Investors want rising asset prices and permanently secure financing. After a year in which inflation provided a supply shock - with higher global commodity prices lowering the real value of UK incomes – a determination to achieve higher inflation is not necessarily a welcome signal.

A third problem is that the public and markets need to believe that the Bank can do what it intends, and boost spending in the economy. As we have seen, there are significant doubts about the potency of QE at present: increased money in the higher reaches of finance can fail to filter through to the high street. The public can read headlines about ‘printing money’ only to be refused a loan when they visit their bank.

The fourth problem is getting people to believe that the Bank wants higher growth. The Bank built its reputation by fighting inflation. People understand that it wants expansion only up to that point where prices start rising at 2 per cent. As far as the public are concerned, the Bank has a different job to the government: if inflation gets out of hand, the Bank will be blamed, but if the economy falls back into recession, the government will be blamed. Nobody is talking about ‘Mervyn King’s recession.’

The Bank’s communication policy does not help. Defending itself against misguided concerns about hyperinflation, it continually reassures the public that QE is a temporary programme that can be reversed quickly. But the more the Bank talks about exit strategies and its inflation-fighting credentials, the more that extra liquidity from QE will be seen as a temporary infusion that cannot be relied upon. Current decisions by banks, financial officers and households will anticipate not only the avalanche of QE money but also the Bank selling back its gilts, causing asset prices to fall, the cost of bank finance to rise, and perhaps the money supply to fall again. This prevents the expansionary behaviour the Bank needs.
This is similar to the charge often levelled at the Bank of Japan. Paul Krugman has written that “the central bank must credibly promise to be irresponsible”, something the Japanese signally failed to do. After decades of establishing the Bank’s inflation fighting credentials, this is not as easy as it sounds.

This dilemma reflects an important difference between what the Bank of England has proposed and Bernanke’s suggestion in 2002, that one should “increase the number of dollars in circulation”. But this can only increase the price level if the increase in dollars is to be permanent. In contrast, the Bank of England has been at pains to emphasise how it intends QE to be temporary. The very first question Mervyn King fielded from the Commons Treasury Committee about QE was “why is buying assets better than printing money and throwing it out of a helicopter” - and the answer given was “because we get the asset”. In other words, the Bank wanted something that it could resell easily in order to prevent inflation. Unfortunately, the Bank’s determination to keep its virtue may prevent its policy from boosting spending at all.

**THE FOREIGN CURRENCY EFFECT**

After the Bank of England started QE, the pound actually gained in value. On the surface this is surprising, and counterproductive. One avenue by which nominal GDP could be boosted is by devaluing the currency, so that our exports gain in competitiveness, and people in the UK expect price appreciation.

What this shows is how foreign exchange markets are driven by a multiplicity of factors. In March 2009, the nationalisation of the entire banking sector was still possible, and the risks to Britain’s creditworthiness were very worrying – there are few countries that have as large a financial sector relative to GDP. Also, the markets will have anticipated some degree of quantitative easing already, so that the pound’s previous weakness may have reflected expectations of forthcoming measures.

This is not to deny that monetary conditions can affect the value of the pound. Pronouncements on the future of QE have
had a regular effect upon the markets. But it is impossible to say whether it would have been stronger or weaker without QE, because while it may have increased the quantity of money in circulation, the policy may also have underpinned asset prices and put a floor under potential economic risks.

**ARMAGEDDON AVERTED? WHAT WOULD HAVE HAPPENED WITHOUT QE**

The above analysis argues that QE has failed to achieve much in terms of positive effects on its professed target – nominal spending in the economy.

But this does not mean that we would have been as well off without quantitative easing. As with the financial rescues launched in autumn 2008, it is important to consider the counterfactual. The real significance of QE may not be what it produced but what it prevented. It may well have assuaged
some of the darker fears and financial difficulties that had forced the stock markets to multi-year lows and spending and investment into a sharp retrenchment. In the words of Paul Donovan of UBS, the policy works as an “anti-depressant, not a stimulant”.  

The first obvious effect was to stop a huge increase in government debt issuance from choking off the supply of credit. There has been a vast increase in government borrowing at a time when the ability of the financial sector to provide credit was under strain. The UK government is forecast to issue £230 billion in 2009-10, which according to IMF estimates will only partially offset a £100bn decrease in the private demand for finance. The net £130bn is still a great deal more than is available in terms of new credit. Because of contracting GDP and the deleveraging of banks, the IMF estimated that the total credit capacity available in 2009 to be £150bn less in 2009 than in 2008.

Providing £200bn of quantitative easing has had a significant effect on bridging this gap. Without it, credit conditions for the whole economy may have become much worse. Instead of observing a flat trend of bank lending, we might have seen it collapsing, with horrendous consequences. Alternatively, the government may have been forced by higher rates to cut off its fiscal support earlier than it has, producing further economic misery.

Secondly, and even more importantly, QE has clearly prevented assets from collapsing further. At the beginning of 2009, the outlook for asset prices in the UK was dreadful. House prices were expected to fall another 20-30 per cent, wiping off a further £1 trillion in wealth. The knock-on effect of defaulted mortgages on banking balance sheets may have laid waste to the banking sector. In fact, in January, analysts had warned that British banks were already insolvent. The prospect of the UK government having to own most of the banking sector was widely discussed, and even called for.

The stock market was also projecting the possibility of meltdown. On 5th March, the FTSE 100 was below 3500, having fallen from 4500 at the beginning of the year.


options market was pricing in a 25 per cent probability of the market falling below 3000 within months – a level not seen since 1994. The knock-on effects – for pension funds, life insurance companies, firms struggling to raise equity – would have been dire. Some would have been forced to sell assets further in order to remain solvent, exacerbating the equity market falls. Without banking credit or access to capital markets, the credit crunch may have been even worse than in 2008. Equity and corporate bond issuance, which has been strong this year, might have been effectively nil, further undercutting the banking sector, which has raised over £50bn in new equity since June 2009.

The Bank of England acknowledges the reduction of extreme risks as a benefit of their policies. In the December 2009 Financial Stability Report it observed how by reducing concerns about extreme scenarios they boosted investor appetite for risky securities like corporate bonds and equities, leading to one of the strongest market rallies ever.

As well as increasing financial instability, further asset price collapses would have devastated consumer demand, as evidenced by the experience of economies such as Japan in the 1990s and the USA during the Great Depression. The economist Richard Koo argues persuasively that the massive collapse in assets in Japan caused many companies to become technically insolvent, and focus all their future resources on paying down debt rather than investment, damaging growth for a decade.

The final positive effect of QE is that it has helped the economy become less reliant on banks without disrupting finance. The British economy is currently overly dependent on a concentrated, unstable and state-supported banking sector. There is a consensus that banking in the UK needs to shrink and place itself on a more sustainable footing, both in terms of capital structure and sources of liquidity.51

The transition is likely to be extremely difficult. It will involve banks selling their assets to new owners, and replacing current sources of funding with new ones, including more equity and
Japan’s experience

Richard Koo, the Chief Economist of Nomura bank in Japan, has argued that insufficient demand in the face of weak asset prices – and not illiquidity or undercapitalised banks - explains why the Japanese economy remained in such a prolonged slump from 1992 onwards. Contrary to some perceptions, it was not the banking sector’s refusal to lend that kept spending low – if this had been the case there would have been more instances of Japanese companies seeking finance abroad. Nor were Japanese companies necessarily unprofitable. The problem for the corporate sector was that the asset price collapse from 1990 onwards left many companies technically insolvent. As a result, they used whatever free cash they generated, not to invest more (and therefore boost demand), but to pay down their outstanding debts. Only once this process of debt reduction was complete could business investment start to play a part in supporting growth.

Japan tried a version of quantitative easing between 2001 and 2006, targeting higher bank reserves once rates hit zero. A common verdict was that the policy was almost irrelevant. While the Japanese economy expanded from 2002 to 2007, this was driven by an export boom, and the corporate sector was largely self-financing. Extra liquidity was a solution to a non-existent problem; the banks were largely free of liquidity problems by the time the programme started. It is possible that the form of QE tried in Japan was actually counterproductive, as it helped to support weaker banks and therefore delayed necessary structural reforms.

perhaps longer duration debts. Such a transition began in 2009. To take place it needed strong asset markets, so that new securities could be floated and new sources of liquidity found to reduce reliance on strained wholesale markets. As MPC member David Miles observed, both of these requirements have been given a huge help by QE, even if it failed to boost the money supply: “I think the evidence suggests there are some significant effects of QE and they are ones which help us travel on a path towards a more sustainable banking structure – one where reliance upon bank debt by the private sector will likely be lower and where the banks are better capitalised and better”
able to handle fluctuations in their sources of funding.

Without QE, UK banks would have had to rely upon even more explicit government support, with all the fiscal consequences that this implies. The Bank of England is urging banks to take advantage of current favourable conditions to repair their balance sheets – a clear recognition that when QE is withdrawn the environment for such operations will be much more difficult.

**THE EFFECTIVENESS OF QE**

This chapter has examined the effects of QE through four distinct channels. Its conclusions are:

- While the banking system is under-capitalised and awaiting potentially onerous new rules about capital and liquidity, QE has proven unable to improve credit conditions for most ordinary households and businesses.

- Non-banking sources of finance are under-developed, so that after a banking crisis increased money does not filter through the economy in a reliable way. The asset purchases have had a haphazard effect on financial conditions for the broader economy. Large businesses have been helped, and in the past the liquidity of companies in general has shown a positive relationship with investment. But extrapolating past relationships between liquidity and growth is unwise given the non-performance of the banking channel.

- The wealth effects of higher asset prices are unlikely to have increased spending very much, apart from in a few favoured sectors like high-end housing.

- The Bank’s irresolute communications strategy and inflation-fighting reputation might have prevented it being able to deploy QE as a valuable tool for boosting expectations of future growth, and thereby shaking the economy more quickly out of its depressed state.

- However, given the extraordinary financial stresses at the beginning of the year, the policy of QE may well have prevented a bad recession turning into something far worse.
Some commentators claim that loose monetary conditions have ushered in a return to high consumption – in particular through booming retail sales during Christmas 2009 – and might therefore conclude that QE is working to boost spending. However, strong retail sales give a misleading impression; they make up just a third of household consumption. In fact, the household savings ratio has risen fast, back to levels not seen since 2001. Whatever effects QE might have had, encouraging a boost in spending in the real economy has not been one of them.
3. Other effects of QE beyond boosting spending

While the Bank claims that QE is a natural extension of normal monetary policy, it has a greater range of effects than just ‘boosting spending’.

BOOSTING THE PRICES OF GILTS – AT SOME RISK

Normally, central banks target an interest rate by dealing in short-term instruments that imply no significant capital risk. Quantitative easing, on the other hand, involves the Bank buying comparatively long-dated instruments, the value of which can fluctuate considerably depending on market sentiment and economic conditions. Even though there is little credit risk, it is perfectly possible that the Bank could buy gilts at a high price and later sell them at a low price, producing a capital loss.

In fact, this is the result that the Bank should be hoping for. This is because the very purpose of QE is to boost the economy from its depressed state. Government bond prices have an inverse relationship with the outlook for inflation and growth. Inflation erodes the value of instruments that only pay fixed nominal amounts. Economic growth also produces serious competition for investment funds.

Superficially, this presents a paradox; the policy should create conditions that make government bonds less attractive, while driving their prices up. The solution to the paradox is that the Bank is not concerned with trading profits, but the growth
of the economy. Unlike ordinary market participants, it is not buying gilts because it believes they look like a smart investment. Moreover, taking the government and the Bank together, the state as a whole ought to be compensated through stronger economic growth and tax revenues.\textsuperscript{54}

Therefore QE may involve the APF paying ‘too much’ for gilts and boosting their prices. Given how much debt is being issued - £135 billion of conventional gilts in the 10 months from March 2009 – this has provided a real benefit to the government. The chart below illustrates the yields of bonds auctioned off by the Debt Management Office (DMO – the agency that manages the sales of debt for the government) in the period before QE and then after. It shows how the average yield has fallen by about 40 basis points (bps).\textsuperscript{55}

It is impossible to know what prices the government would have received without QE. But they would probably have been lower, and therefore yields higher, than in the months before.

\textbf{CHART 19: YIELDS AT AUCTION BEFORE AND AFTER QE}

\begin{center}
\textbf{Note: pre-QE yield curve comes from period September 2008-February 2009.}
\end{center}
before. Evidence from Europe, where yields on sovereign debt on European debt have generally risen since March, supports the idea that QE has helped the government by considerably more than 40bps.\textsuperscript{56} Given the fiscal deterioration suffered in the UK, yields should have risen, rather than fallen by 40 bps as suggested by Chart 19. Inflation expectations have also increased. Together, these developments ought to have depressed gilt prices.

We have estimated that the savings on £65bn of gilts sold through auction since March may be £2 billion, if we assume that the bonds would otherwise have been sold at their previous pre-QE auction price (see Appendix 4). If this advantage applies to all of this year’s debt issuance, the government should be on course to save £5-6 billion this year thanks to QE. In fact, given how auction prices might have been lower, this is certainly a conservative estimate.

However this price advantage must have come at a cost. If inflation expectations rise strongly above current levels, there may be considerable capital losses. The advantage of selling current debt at better prices supports the current government, while the risk of overpaying is indemnified by a future administration. This represents a kind of fiscal transfer – the current government benefiting from the largesse of a future one. It may well be justified and sensible; future taxpayers ought to be better-placed to bear the burden, as higher nominal GDP ought to produce stronger tax revenues.\textsuperscript{57} But such a risk ought to be recognised for what it is – a fiscal matter.

Assessing the possible extent of these losses is extremely difficult. To make a rough estimate, we have cut down the potential variables to two: the period of time that the bonds are held, and the 15-year inflation rate that the market expects when the policy is unwound.\textsuperscript{58} Assuming that the total size of the fund is £200bn, Table 2 represents potential configuration of possible losses or profits.

Likely possibilities run along the diagonal from bottom left to top right. This is because, if inflation remains very low, the APF is likely to sell its gilts only after a long period of time (see
Credit where it’s due

The top right area). Its profits ought then to be significant; the
gilts will have earned a positive (circa 4 per cent) return for
several years, and they ought to have gained value because of
lower inflation expectations on exit.

On the other hand, if inflation expectations rise, there will be
a swift exit from the scheme, and also considerable losses
(see the bottom left area); selling gilts when inflationary
expectations have risen by 2 per cent might produce a capital
loss of some 20 per cent, or £40bn.

<table>
<thead>
<tr>
<th>15 year inflation rate expected in market at sale of gilts</th>
<th>Years for which the gilts are held</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.5</td>
</tr>
<tr>
<td>0.0%</td>
<td>£51</td>
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<tr>
<td>0.4%</td>
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<td>0.8%</td>
<td>£37</td>
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<td>4.8%</td>
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<tr>
<td>7.6%</td>
<td>-£79</td>
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</tbody>
</table>
The middle area is probably what the Bank of England hopes for; a relatively calm inflationary outlook, and an exit from the policy in 2-3 years time, with minor profits or losses.

HIDDEN GIFTS FOR THE FINANCIAL SECTOR

For financial institutions, the period after March 2009 has been extraordinarily profitable, given the weakness of the global economy. Not all of this can be put down to the Bank of England’s interventions: monetary policy elsewhere and the global recovery – first in Asia and then elsewhere – must have played a part. We can never know what conditions would have been like without QE. It is possible that even the strongest bank might have needed to fall back on government support had markets continued to weaken through the summer. However, in terms of positive contributions to profitability, there are some easily identifiable elements, such as lower financing costs and higher asset prices.

CHART 20: LOWER FINANCING COSTS FOR BANKS

![Chart showing lower financing costs for banks](chart20.png)
Since QE began, LIBOR has dropped by about 1.5 per cent. Banks have been able to receive funding at a cost far below what the private sector would have happily provided without state support. Some of this must be due to more generous terms for liquidity provision – what Professor Buiter calls ‘quasi-fiscal subsidies’. Other benefits have flowed directly from lower government borrowing rates. The costs of issuing core (or ‘Tier 1’) bank equity have fallen, as have other methods of raising funds, such as senior unguaranteed debt and money raised on the interbank market (see Chart 20).

This may not all be passed on to customers. The Bank of England’s breakdown of mortgage rates makes it clear that margins on domestic lending have improved (see Chart 21). While the funding cost is estimated to have fallen from 3.75 per cent in February to 1.5 per cent in October, the tracker rate has only dropped from 4.3 to 3.9 per cent.

Another part of QE’s ‘hidden gift’ lies in the improvement of asset prices. As of the end of 2008, UK banks and ‘Large Complex Financial Institutions’ (LCFIs) had about £16 trillion in assets excluding financial derivatives. Roughly two fifths of such assets are held by the major UK banks, including £1.5 trillion in securities. Investment banks in particular are exposed to trading markets like equities and bonds, both of which have enjoyed a large increase since March. As the Bank’s December 2009 Financial Stability Report shows, non-interest income – i.e. from the trading book – has provided the greatest contribution to an increase in banking income of over $40 billion, when the first half of 2009 is compared to the second half of 2008.

More difficult to measure, but of great significance, has been the rapid and largely unexpected improvement in the housing market. In November 2008, the average house price was £165,000, and predictions of further drops of 10-20 per cent were common. Both Halifax and Nationwide declined even to issue their customary forecast for the next year, while the chief executive of Barclays foresaw a decline of 30 per cent from the peak, which would have driven the average price down to £140,000. The housing futures market agreed,
CHART 21: BREAKDOWN OF COMPONENTS OF THE TYPICAL UK MORTGAGE RATE

- Base rate tracker mortgage rate
- Margin (implied)
- Funding cost
- Expected loss
- Unexpected loss

CHART 22: EQUITY PRICES WORLDWIDE (JAN 2001 = 100)

- Euro Stoxx
- FTSE All-Share
- S&P 500
pricing December 2009 at £143,000, December 2010 at £134,000, and December 2011 at £126,000. Such falls would have had a huge effect on housing wealth. At its peak, the UK housing market was worth £4 trillion. A further 25 per cent fall – or £1 trillion – would have played havoc with loan defaults and banking balance sheets.

Since the beginning of 2009 the market has stabilized, and started rising again. Sentiment has improved for the future, so that the expected change in house prices over the next two years is now roughly zero. Mortgage approvals are almost twice the level they were a year ago.

The vast majority of the improvement in future house prices will accrue to owners, not bankers. Nevertheless, at the beginning of 2009, 4 per cent of outstanding mortgages were expected to go into arrears. These estimates have improved to 2 per cent or less, and forecasts for repossessions have fallen from 75,000 to 48,000. Estimates of how much banks will have to write off their home loans have been revised down.

**CHART 23: HOUSE PRICES – PREDICTIONS AND OUTTURNS**

Actual outturn and latest projections

Where the market was predicted to go in January 2009
For securitized UK housing assets, the marked-to-market profit may be instant – otherwise the advantage will gradually accrue to banks in terms of higher profits in the years ahead.

Taken together, these improving conditions have had an enormous effect upon bank profitability, particularly for investment banks. Barclays has reported a doubling of investment bank profits in 2009 compared to 2008, and HSBC an increase of 130 per cent. Goldman Sachs, a pure investment bank, has seen profits leap from £500m to £1.96bn, after having set aside a bonus pool of £3.3 billion. Even purely retail banks must have enjoyed an advantage, although one that is difficult to discern as they gradually recognise losses on their books.

These advantages are by no means universal. Building societies complain that low rates cut off the supply of funds, hurting both savers and borrowers, and undermining the profits from intermediation. On the whole, the benefits have gone more towards wholesale investment banking than the retail part of the industry.

These various effects are impossible to put an exact figure upon, even if one could know what the non-QE counterfactual was. But the market’s estimate of their value is easier to grasp from share prices in the financial sector. Since QE was announced there has been a remarkable improvement in banking equity prices, boosting their market capitalisation by over 100 per cent, as well as in other areas like life insurance.

Only about 10 per cent of the banking sector by equity value is owned by the taxpayer, so most of the value went to private shareholders. This may have helped motivate calls to tax the banks’ profits, from Dr Vince Cable of the Liberal Democrats amongst others. The problem with this idea is that the banks are short of equity capital, and taxing their profits impedes the process of rebuilding it. In theory, it is better to tax bonuses: for investment banks, over 50 per cent of revenues are often paid out in bonuses, which deplete shareholder equity as well as being unfair, given how important government monetary support has been to profitability. The UK government
recognised this when it introduced a tax on bonuses in the pre Budget report, intended to raise £500m. The Chancellor intended that the banks themselves took the decision as to whether to absorb the tax in banking profits, or pass it on to employees. Research from the Financial Times found that the banks had almost all chosen to take the former route, with the effect that the tax will raise £5 billion, in effect from shareholder equity.70

From our analysis above, 2009 was profitable largely through conditions far beyond the power of any individual banker to influence. Andrew Haldane of the Bank of England is right to criticise the banks’ use of their “positive profit surprise”: in a recent speech he criticised the lack of “prudential opportunism” on the part of banks, when profits that could have been used to augment capital ratios were instead paid out to staff and shareholders.71 By stripping cash from banking equity they may have also retarded the recovery.
PROPPING UP THE WEALTHY

As we have already argued, a recovery in asset prices is, in macroeconomic terms, a good thing: by lowering funding costs it has helped the financial sector recover and is likely to support a long term restructuring away from banking. Preventing a self-fulfilling spiral of asset sales, weak balance sheets and forced further selling helped stave off an even deeper financial crisis.

However, using government money to prop up balance sheets and support a particular sector produces a skewed distribution of immediate benefits. Leading commentators cannot agree upon whether things have gone better or worse than was expected a year ago, despite £200bn of QE. But some parts of the economy are radically improved while others are much worse. The impact of a recession is always uneven and arbitrary, and government policies cannot be stalled by concerns about immediate distributional consequences. Nevertheless, the UK will soon embark on the longest sustained fiscal consolidation since the war, one that will undermine living standards across society. Understanding who has benefited the most from government actions is an important element in reaching a just and politically acceptable settlement in the years ahead. Although the rewards going to bankers attract the most political attention, they are dwarfed by the broader distributional consequences of massive government intervention to prop up the economy.

The Labour government has been accused of presiding over an increase in poverty and inequality, indeed by both the Conservatives from the right and some of their own firmest supporters from the left. Yet there can be little doubt that tax changes introduced since 1997 have been highly redistributive; according to IFS research, the poorest quintiles have had their incomes boosted by £1600 per year, while the richest have lost out by £2100.

A contributory reason for his apparent paradox has been an asset price boom for much of the past 15 years. Wealth is distributed much less evenly than income. Any period of strongly growing asset prices is likely to see the already-
wealthy benefit to a disproportionate extent. This may show up directly in terms of higher standards of living. Ownership of assets confers other benefits in terms of opportunity and security, a fact noted by thinkers as diverse as Phillip Blond of right-leaning ResPublica to Professors Rajiv Prabhakar and Stuart White writing for the Fabian society.\textsuperscript{75} A starting endowment may be enough to put a young person on the ladder to education, property ownership, or simply tide them over during difficult times.

The prolonged boom from the mid 1990s onwards – leading to a trebling of house prices – meant New Labour was ‘rowing against the tide’ in its efforts to reduce inequality. As Spencer Dale of the Bank of England observed, “The increase in house prices over the decade to 2007 – and the massive financial flows associated with that appreciation – represent a huge redistribution of wealth between different households within our society”.\textsuperscript{76} Gordon Brown’s redistributive budgets were necessary just to stop inequality continuing to rise as it did during the boom under Margaret Thatcher.

Given an across-the-board consensus that relative poverty is a problem, the distributional consequences of macroeconomic policy cannot be ignored. Any solution to weak growth that also increased inequality would leave future governments with a large but unspecified bill: a political obligation to find tax and benefit reforms to mitigate such an increase. Furthermore, aggregate demand responds less powerfully to increases in wealth that are concentrated on the rich. Wealthier households are less likely to spend any additional money they might receive than poorer households.\textsuperscript{77}

As Chart 25 illustrates, the asset boom since March 2009 has concentrated its benefits upon households with higher incomes.

Another way of describing the consequences of the asset price recovery is that it may have added well over £1.5 trillion to the value of UK-owned housing and financial assets. Of this figure, more than two fifths (£600 billion) has accrued to the top quintile of households by income - more than has gone to
the bottom three quintiles combined. By any standard, this represents an extremely skewed distribution of benefits.

The Bank of England does not make a habit of deliberating upon the distributional consequences of its policies. Questions of whether the rich or the poor gain from a particular stance are rightly regarded as fiscal. In ordinary times this view would be reasonable; but these are not ordinary times. Perhaps it is inevitable that any monetary policy aimed at stabilizing the economy will have helped asset prices, and in so doing boost the wealth of those most exposed to further asset price falls. But such side-effects must be recognised by policymakers, so that they can be taken into account when deciding ‘how to share the losses’ of fiscal consolidation.78
5. Is QE dangerous?

In contrast to Japan in the 1990s, the possible consequences of QE as practiced in the UK are not one dimensional, ranging from ‘ineffective and therefore harmless’ to ‘effective and possibly inflationary’. The Bank is planning for a good equilibrium, where QE boosts expectations of growth, produces lower real interest rates, and is smoothly withdrawn as the private economy gradually strengthens. But there are other negative outcomes, which motivate criticism of the policy.

The most obvious, and in our view misguided, criticism is that ‘printing money’ can on its own produce runaway inflation. A more likely risk is that it will fuel another asset boom, recreating the very conditions that central banks struggled to manage before the crash. In combination with this, there is the risk that QE will fail to boost spending, leaving the Bank as a semi-permanent owner of hundreds of billions of pounds worth of gilts. This outcome would pose awkward questions of political economy about the relationship between the Treasury and the Bank.

HYPERINFLATION

‘Printing money’ is widely associated with hyperinflation, and from the beginning some commentators have fretted that this is what multiplying the monetary base would produce. A classic example of this fear was expressed, with typical hyperbole, by Daily Telegraph commentator Liam Halligan in February 2009:  

Now, in a final desperate throw of the dice, we’re seeing “quantitative easing” – in other words, “printing money”. How will this ridiculous policy help? Have we learnt nothing from Zimbabwe, Argentina or the Weimar Republic?
Some have argued that by reducing the real value of outstanding debts, a little extra inflation would be no bad thing. However, proponents of quantitative easing are at pains to claim that QE is not about ‘inflating our problems away’. While the Bank did intend to produce inflation that is higher than it otherwise would have been, this aim was quite within its remit given the risks of deflation. More importantly, most expert monetarists would deny that there is a straightforward relationship between monetary base and the price level. In the words of Adam Posen:

“If the Bank could create inflation easily under such circumstances and if the majority of market participants and households believed that – not just the nutters – then we would be more than halfway home. If only it were that easy. People are rational, and they realize that we cannot do that”.

The Bank is right, both about the purpose of QE and whether it translates easily into high inflation. With significant slack in the economy, very few companies are in the position of being able to raise prices without being undercut by competitors. The real conditions that lead to inflation – rising commodity prices and wage agreements, falling slack in the economy – are closely monitored by the Bank. In its latest inflation report it anticipates a fall in CPI inflation after April 2010, once various one-off effects linked to the temporary VAT cut fall out of the calculations (see Box), so that by the end of 2010 it is more likely to be below than above target.

This is not to claim that high inflation is entirely implausible, simply that it will not occur as an automatic consequence of extra bank reserves. The authorities possess all the tools they need to contract the economy. Ultimately, it is a fiscal crisis, not QE as practised by the Bank, that could turn ‘money printing’ into hyperinflation. If the UK fails to achieve growth, and finds deflation is undermining its ability to pay off its debts, a real monetisation of debt may become the only politically palatable solution.
The inflation scare: base effects and VAT changes

The headline rate of CPI inflation for December 2009 recorded its largest increase since records began, provoking fears that QE was going to fuel uncontrolled price rises. However, headline inflation numbers are generated by taking the latest level of a price index and comparing it to its level 12 months before. In the case of December’s figures, the largest component of the rise stemmed from lower prices in late 2008 – what the Financial Times called ‘an echo of the recession’. In fact, it was easy to predict a further increase in headline inflation for the first few months of 2010, given the weakness of prices the year before.

CHART 26: THE CPI PRICE INDEX

The other factor leading to a predictable increase in inflation is a rise in VAT, which returned to 17.5 per cent in January 2010 after being cut to 15 per cent in December 2008. Given how consumers are likely to have brought forward purchases in order to beat the rise, the return of VAT to 17.5 per cent would have exacerbated price pressures at the end of 2009. To adjust for this, the Office for National Statistics produces a series for the CPI at constant tax rates, which is still consistent with a still weakening economy.
Base effects and the continued adjustment to a VAT rise inevitably leads to headlines dominated by talk of an ‘inflation spike’, alongside a letter from the Governor to the Chancellor explaining his failure to keep inflation under control. The MPC clearly has to watch for signs of inflationary expectations. But with average earnings growth as weak as it has ever been (see Chart 27), and all major political parties talking of public sector pay restraint, there are no signs of a possible wage-price spiral that could fuel inflation. A greater risk is that policymakers overreact to superficial changes in headline inflation, and tighten conditions long before the economy is strong enough to bear it. Thankfully, the Bank seems likely to hold out against such pressure.
ANOTHER ASSET BOOM

In the years up to 2007, central banks everywhere struggled to manage economies heading down two tracks at once. While real growth was low and stable, asset markets were booming, allowing the build up in credit that led to such a massive financial crash. Ever since there have been widespread calls for central banks to ‘lean against the wind’ of rising asset prices. But with just one instrument for addressing asset bubbles – the base rate – this might cause considerable problems. Applying higher rates to target a specific bubble is akin to using a sledgehammer for brain surgery. Collateral damage is inevitable, with unrelated sectors paying the price for booms in other parts of the economy.

No-one has yet produced an adequate answer to this dilemma, although there is growing discussion of ‘macro-prudential policy’ for containing asset booms. This is why some thinkers are so concerned that the primary effect of QE is to boost asset prices. Nouriel Roubini, an economist who famously foresaw the last crash, has warned about the “the mother of all carry trades”. This is when cheap money – from the US, UK and Europe – finances speculation elsewhere. In November 2009, Roubini argued that: “the longer and bigger the carry trades and the larger the asset bubble, the bigger will be the ensuing asset bubble crash”.

Amongst MPC members, Spencer Dale has been the most nervous about this risk, saying of his decision to vote against further QE: “I was conscious that the current stance of monetary policy – in which Bank Rate is very low and substantial amounts of liquidity are being injected into the economy – increases the likelihood that asset prices may move out of line with their fundamental values and that this could be costly to rectify were it to occur.”

While QE has so little effect on actual demand in the economy, its effects upon asset prices is more evident, and beyond a certain point may well be a risk. This exacerbates the problem...
that the larger the programme becomes, the more difficult is the eventual exit. This is beginning to concern US officials as well.\textsuperscript{87} Clearly the Bank risks making mistakes far larger than when it only had to worry about quarter point rate moves.

To put this risk in context, consider the Chinese holdings of US debt. The consequences of China selling or even ceasing to accumulate US debt are generally assumed to be dire.\textsuperscript{88} But China owns just 8 per cent of the $10 trillion US debt outstanding.\textsuperscript{89} By comparison, a poorly planned sale of a quarter of the UK national debt might panic foreign owners out of sterling, and bring investor uncertainty, a rise in risk premia and massive disruption to investment.

In our opinion, we have not reached the point where another asset boom is a large risk. Much of the vast increase in asset prices has happened from a very low base, and to some extent may be justified by worldwide economic fundamentals. Furthermore, different kinds of asset boom pose a different order of risks. The boom of 2002-07 was so dangerous because it accompanied a huge increase in bank credit, which concentrated the risks in a very dangerous way. In comparison, the share price bubble of 1998-2000 was far less damaging. As ex Federal Reserve member Frederic Mishkin has written, “without a credit boom, the bursting of the bubble does not cause the financial system to seize up and so does much less damage”.\textsuperscript{90} The current asset boom has far from the growth in bank credit than the boom that preceded it. Moreover, while financial bubbles may be arising in far-off places like China, it is surely beyond the remit of the Bank to try to estimate such distant effects of its policy.\textsuperscript{91}

Overstretched asset prices might eventually force an end to QE earlier than is ideal for the UK economy. The larger the programme becomes, the more possible is a disorderly exit. But in our view, this argues for making sure that it is effective, sooner, rather than stopping it.
FISCAL POLICY WITHOUT THE ACCOUNTABILITY

A recent policy brief by George Trefgarne from the Centre for Policy Studies discusses the political problem of the Bank being such a large holder of government debt: 

A side-effect of the policy has been vastly to enhance the power of the Bank of England, by effectively giving it control over fiscal policy. The usual process for approving government spending and borrowing is via Parliament. QE effectively circumvents that process by giving a generous interpretation to the terms of the Bank of England Act... QE gives the Governor and the monetary policy committee (which he chairs) a potential veto over every detail of fiscal policy and, by extension, over almost everything that the current or next government says or does.

As Trefgarne observes, when the Bank was granted independence, no-one envisaged a policy like QE. This paper has demonstrated how it has produced a number of serious fiscal consequences:

- The potential for massive losses, which are indemnified by future tax payers;
- Significant distributional effects between different types of household, creating winners and losers that fiscal policy will need to address;
- Subsidising the profitability of banking to restore capital levels and move it towards a more sustainable basis, although without the visibility or accountability of an equity infusion;
- Improving the government’s ability to sell debt, and therefore its fiscal leeway – something that has made a loose fiscal stance possible.

Bank of England independence is still secure. But the longer QE runs, and larger it becomes, the more it might undermine the independence of the government from the Bank.
THE BIGGEST RISK IS FAILURE

This paper has shown how QE may fail to boost demand enough to pull the economy out of recession.

The next government – which opinion polls suggest may well be Conservative – must embark on an almost unprecedented fiscal consolidation. Current government plans, while vague in the details, are already very tight, even compared to previous periods of restraint. Conservatives are often sceptical of Keynesian solutions, and tend to hark back to the early 1980s to argue that a period of austerity can be good for the economy. In theory, tight fiscal policy can interact with loose money to bring a shift to investment and net exports. CentreForum has queried the structural ability of the UK to grow in this way, as George Osborne hopes it will. But it is true that if the fiscal stance is tight, the UK economy cannot easily grow without monetary policy being loose.

Prospects for the economy are still uncertain. The most recent readings on economic growth have been very disappointing, even as commentators started to anticipate an end to the QE programme. Most analysts expected a return to growth in the third quarter of 2009, with some actually doubting the reliability of the Office for National Statistics when it provisionally estimated a 0.4 per cent fall; Goldman Sachs’ note on the figures simply said “Unbelievable. Literally”. The first reading on the fourth quarter was of growth of just 0.1 per cent. On the other hand, individual surveys – such as those covering manufacturing – have tended to produce stronger results than the official statistics.

Between November 2009 and February 2010, the Bank of England downgraded its forecasts for growth in the next 2-3 years, from albeit high levels. Market expectations of interest rates have fallen with the likely strength of the recovery. Britain is the only major country where the fiscal stance is expected to take demand out of the economy in 2010. Partly as a result of this, job losses are likely to increase in the short term. This may not have been anticipated by households, so that they reduce their consumption by more than currently
expected.\(^9\) Credit conditions for the next few years are widely expected to be difficult, as the Bank of England acknowledges in its most recent *Inflation report*. A recent British Chambers of Commerce survey has found that three quarters of respondents think a double-dip recession will happen.\(^9\)

Uncertainty about the likely path of the economy is mirrored in recommendations from the policymaking community for QE itself, ranging from ‘mission accomplished’ to those insistent that without higher money growth the recovery cannot be relied upon.\(^9\) For most of January, there was a consensus that QE was likely to come to a permanent halt at £200bn – but the weak growth figures and markedly ‘dovish’ inflation report since then has left some commentators wondering if more is yet to come.\(^9\)

The most worrying risk is that the economy stutters again, and the apparent failure of QE leaves policymakers believing that they have run out of methods for boosting the economy. As the Economist remarked of the situation in the United States, “the barriers to further quantitative easing at the Fed aren’t economic, they’re political”.\(^1\) In the UK, patience with QE could start to wear thin for a number of reasons. A likely rise in inflation owing to predictable base effects might motivate complaints from those who want higher rates, holders of nominal savings or pensions above all.\(^1\) The asset-poor may begin to notice its skewed effects. Politicians will quite rightly start to ask whether QE has shifted too much power towards the Bank.

But giving up on monetary easing at the same time as fiscal policy becomes tight might plunge the UK into a serious recession. This would be a far worse situation than 2008 – instead of entering recession with a deficit of 3-5 per cent and debt levels of 40 per cent, these figures would be 13 per cent and 70 per cent respectively. Instead of a global fiscal stimulus, the second dip would happen against a backdrop of widespread consolidation, with many of our largest trading partners starting to consolidate as fears of sovereign default unsettle European debt markets.
If this were a supply-shock recession, there might be no alternative to the UK drastically lowering its living standards in order to restore balance. But for a recession caused by weak demand, every year during which the economy stays weak represents an enormous waste, during which people who might have been gainfully employed will have been subjected to unnecessary unemployment. This is why it is essential that policy makers find ways of making QE a more effective weapon against recession. The critics are right: more of the same is not what is called for. The UK needs more of something different.
5. Making QE work better through ‘fiscal dominance’

If sustainable growth returns, then the planned withdrawal of the Bank’s exceptional support can proceed. It is clear that several MPC members expect this to happen. However, as the events of the last few years should have taught us, policy makers would do well to prepare for unlikely, as well as predicted, eventualities.

Despite £200 billion of QE, the money supply and output gap are pretty much where they were in March 2009. One-off effects, like the reversion of VAT to 17.5 per cent, will cause a temporary rebound in inflation in the first half of 2010, but beyond that the risks of deflation are still high. Public sector austerity may start to drive unemployment upwards and governments throughout Europe will start consolidating.

There needs to be a ‘Plan B’ in case the British economy remains stagnant. It is essential that QE becomes effective at boosting spending in a depressed economy. To do this, the problems identified in this paper need to be addressed. They are:

- The lack of a structural mechanism for turning the extra liquidity into additional finance in the wider economy;
- Problems with expectations: because few expect the stimulus to be permanent, this dampens the effect on demand;
- The fiscal side-effects that are allowed to slip away from democratic control.
The answer is to recognise how QE, with its far reaching distributional consequences, goes well beyond traditional monetary policy, and needs therefore to be under far tighter governmental control, or ‘fiscal dominance’.103 The overall size of the monetary stimulus is, and should remain, a matter for the Bank. But the question of to whom the money should flow is very much a matter for government.

There are three advantages to this. The first is that it may break the expectation trap the Bank has found itself in. Monetary theorists describe this as ‘committing to being irresponsible’.104 Gauti Eggertsson argues that such a commitment requires the central bank and government to coordinate.105 Any hint of government involvement in QE will on its own alter expectations of the future path of inflation and growth. The market understands how the government is motivated by more than just price stability.

The second advantage is that the government can direct QE into areas of the economy where there may be financial blockages. An obvious example is lending to smaller companies. Small and medium sized enterprises (SMEs) account for half the turnover and 60 per cent of the employment in the country. The Bank has suggested that the full impact of financing constraints in this area may not be apparent, because most companies had lowered their demand. In other words, the cost of this market failure will only become clear when the UK starts recovering.

A loss of finance for investing is one reason why a financial market-led recession damages economic capacity. So even if the economy is closer to its supply potential than the Bank has hitherto estimated – a worrying possibility raised by Barclays analysts recently – it would still make sense to use QE to address cases of financial market failure.106

Furthermore a credit crunch may damage short term aggregate supply by increasing the cost of working capital and thereby making it more risky to increase production. This leaves companies choosing to preserve their price mark-ups rather than expanding sales, and may explain how CPI inflation has been higher than the Bank expected in the past few months.
The final advantage is that a joint approach from the Bank and the government aligns accountability for the policy where it should be. In embarking upon QE the Bank has already strayed across the line between fiscal and monetary policy, and yet it sees no need for a change to its system of accountability. It will remain in this awkward place for as long as the UK remains depressed relative to its economic potential.

START TARGETING NOMINAL GROWTH UNTIL THE OUTPUT GAP IS CLOSED

The markets need to know that the Bank will not rest until the economy is growing fast enough to close the output gap. So CentreForum’s first recommendation is for the Bank explicitly to target high growth in nominal GDP (NGDP) for the next five years.

The Bank could choose the level of the target according to its estimates of the degree of slack in the economy, and the risk of inflationary expectations taking hold. We would recommend 6 per cent nominal growth for 2011, as the economy ought to be still far below its capacity at that point. The target might fall to 5 per cent as the Bank sees the output gap being closed.

The very fact of such an announcement would have a huge effect. As Sir Samuel Brittan wrote in 2004, “One virtue of such a nominal target is that when the economy is stagnating or in recession, it points decisively to expansionary policies so long as we are starting from a low inflation base”.107 This appearance of decisiveness has been missing. The publication of an NGDP target would signal that the MPC would not vacillate – raising rates, or winding down QE – in its pursuit of significant and sustained growth. This ought to convince banks and investors in general that the Bank is genuinely ‘committed to being irresponsible’ – that easier monetary conditions will not be removed at the first sign of growth.

There are also practical advantages to targeting NGDP as well as consumer prices. In 2003, when still Chief Economist, Mervyn King acknowledged the advantage of pursuing nominal
targets, pointing out that “it is easier to measure the money value of spending and output in the economy than to split it into estimates of ‘real’ output, on the one hand, and price indices, on the other”.

There are two obvious objections to this idea. The first is that the Bank already takes adequate notice of growth by including the output gap in its deliberations. But if this gives the MPC an orientation towards growth, it is not obvious to the public or markets, and has often been counteracted by nervous talk of exit strategies. Financial markets might anticipate the Bank tightening policy well before rapid nominal GDP growth has been achieved. Forward thinking bankers and finance executives won’t invest if they believe (currently ample) liquidity will be withdrawn in the near future.

The second objection is that adopting such a target will unleash dangerous expectations of inflation. Interfering with the inflation target will appear to be a partial reversal of the 1997 settlement, when granting independence to the Bank saw gilt yields fall by a large amount. Could such a step cause expectations of inflation to soar out of control?

There are several answers to this. The first is that, insofar as this causes people to expect higher economic growth, this is a good thing. It should encourage higher demand, which is the current purpose of the Bank’s policy. If it weakens sterling, this may boost exports, which both major parties hope will contribute to growth over the next few years.

But a NGDP target should not be any more inflationary than an inflation target. In the speech cited above, Mervyn King acknowledged as much, pointing out how stable the growth rate of nominal demand had been during the previous decade of quiescent prices. If inflation rises too fast, so too will NGDP. This ought to lead to expectations of the Bank tightening rates – just as it does under the current regime.

If markets are concerned that the government has too large an incentive to ‘inflate its troubles away’, there are other ways of demonstrating its resolve, for example by issuing more index-linked debt. Furthermore, as Edmund Conway of the
Daily Telegraph observes, most of the government’s liabilities are effectively inflation-proofed, as is the case with the state pension. Ministers have less reason to let inflation soar than they did in the 1970s. What they want is growth.

Finally, the political economy of central bank independence provides another reason to support NGDP targeting. The Bank needs to maintain popular support if it is to manage long term price expectations. A persistent failure to return the economy to growth may pose a larger risk to Bank independence than a change in targeting methodology. If the economy stays weak and the output gap remains unclosed, the government’s fiscal problems may well get worse, and fears of a truly inflationary solution to the crisis will grow. As former MPC member Sir John Gieve said in February 2009: “The Bank and MPC need to convince [the general public] that the policy we are pursuing is the best way of restoring growth and full employment without reawakening inflation”.

The architects of Bank of England independence would have had little notion of just how ineffective the arrangement would prove in the face of the deflationary crisis conditions of 2009. Had they known then what they know now, they may well have reshaped the original settlement to take more account of growth.
A SEPARATE FUND FOR ‘CREDIT EASING’

When the Asset Purchase Facility was set up in January 2009, its intended function was ‘to improve liquidity in credit markets’, as well as for monetary policy purposes. But since March the monetary function has far outweighed any direct involvement in credit markets. The Bank has done little to influence credit conditions directly – so far, just £2 billion of the £200 billion has been spent on items with any credit risk, like corporate bonds and commercial paper. According to credit ratings agencies, it was too tentative and risk-averse to offer a scheme that smaller companies would be tempted to use. As the BBC’s economics editor Stephanie Flanders says, “buying nearly £200bn worth of gilts as part of quantitative easing is, at best, a roundabout way to ease credit conditions for British firms”.

Normally it would make sense to draw a firm line between ordinary monetary policy and actions that involve credit risk, which are more fiscal in their nature. But the absence of a working banking channel means conditions are far from normal.

QE should be redirected so that it injects liquidity further down the credit system, to produce genuinely easier financial conditions throughout the economy – a step called ‘credit easing’. This is more like what the Federal Reserve in the US has carried out through schemes like TALF and the outright purchase of mortgage-backed securities. The respected economic think tank NIESR has argued that one reason the United States has recovered faster than the UK is that it has carried out more credit easing.

We recommend that while the Bank should use its NGDP target to determine the overall size of the programme, the Treasury should redirect some of QE into credit easing. To some extent, the government is making moves in this direction, by reiterating in a recent letter that the Asset Purchase Facility may continue to offer facilities that support corporate bond and commercial paper markets.
Government involvement in credit decisions clearly poses risks. Economic liberals – this author included – believe that decisions are better made through the trial-and-error of privately motivated market participants than at the behest of supposedly wise and benevolent central planners. Some politicians may see public ownership as useful – as a way, perhaps, of forcing the banks to increase lending. But even if this were possible, a period of forced, state-directed lending will only lead to distortions and render more difficult the eventual transition to ordinary commercial practice. Lending has to follow commercial incentives or another crisis of solvency will follow. Alternatively, moral hazard will re-emerge as the market will expect the government to underwrite agreements it forced banks into entering upon.

This problem already exists to a considerable extent, the government having a controlling stake in RBS, 43 per cent of Lloyds-HBOS, and full ownership of Northern Rock. Together, these entities give it some say over the deployment of almost £3 trillion in assets. At some point in the future, there will need to be a large scale de-nationalisation of these stakes.

In the meantime, there are several principles that should be observed during the awkward period of governmental support to finance:

- **That there should be arm’s length relationships between state entities.** The debt management office, Bank of England and Asset Purchasing Facility are entities with different remits. This is a good approach, and should be replicated in the design of any future credit risk facility.

- **That public-private partnerships should be pursued where possible.** A new UK infrastructure bank will not make good decisions if it lacks any focus on making profit.

- **That early private ownership options should be explored.** Where possible, the government should investigate ways of selling, or even giving away, stakes in new ventures to the public.

With these in mind, any credit-risk elements of QE should be owned by a new entity separate from the APF. While the
APF was instituted ‘to improve liquidity in credit markets’, its function is now de facto determined by the Bank’s monetary goals, the pursuit of which may contradict the pursuit of profits. As observed above, the APF might even be intended to create losses, with a mission to lift the prices of gilts while creating higher inflation that lowers their value.

A credit-easing fund should be devoted to improving credit conditions throughout the economy. But it should do this while remaining subject to commercial discipline, to prevent inefficient decisions distorting the economy. Such a combined remit is perfectly possible. It is, after all, what UKFI – the agency managing the government’s stakes in banks – is meant to do: ‘maximising sustainable value for the taxpayer’, alongside ‘maintaining financial stability’.

Setting up the credit-easing fund ought to be simple. At the beginning, the government would instruct the APF to transfer, say, £20bn of gilts and associated banking reserve liability into the new entity. Then, as it found opportunities to invest, it would simply sell its gilt holdings and use the proceeds. By this mechanism, it would remain clear that the total quantity of reserves was still determined by the MPC’s quantitative easing decision, and also that the purpose of the new venture is not to make government borrowing easier, but to improve credit conditions in the real economy.

We recommend that it be set up with a future exit into private ownership planned from the very beginning. Granted secure access to Bank of England funding for a period of years, and designed to address clear market failures, such a fund ought to represent a profitable opportunity. As a result it ought to be quite able to exist as an entirely private entity, just as 3i was floated out of the Industrial and Commercial Finance Corporation.

Normally, the proceeds from the sale of such an entity might be used to pay off the national debt. This would be a missed opportunity. Both Labour and Conservative politicians have begun to recognise the importance of asset-based welfare, particularly in the light of stubbornly high levels of wealth
inequality. Since QE has almost certainly worsened this inequality, it is entirely appropriate that shares in such a fund be directly distributed to UK citizens, perhaps upon a similar basis as Labour’s Child Trust Fund. This is similar to an idea mooted by Sir Samuel Brittan in the 1970s for the revenues from North Sea oil.

### POSSIBLE USES OF CREDIT EASING

If the UK had a fully developed corporate bond market, and other non-banking channels that distribute finance more widely, then QE on its own might have been more effective. Clearly, this is not the case. The proposals below therefore assume a vigorous programme of structural development in the UK financial sector, as has been urged by both the government and the Bank of England. Fortunately, many of the steps required are already in train.

**Greater use of covered bonds.** One of the sternest critics of quantitative easing in its current form is Professor Buiter. He argues that the Bank should follow the lead of the ECB and invite the issuance of ‘covered bonds’ – asset-backed securities that remain on the balance sheet of the issuer. Unlike the now notorious mortgage backed securities at the heart of the financial crisis, such instruments force the issuer to retain an interest in monitoring the quality of the loans, and ought to form part of a more durable financial system in future. The ECB also purchases such bonds at a rating well below the top grade in terms of credit risk. The Bank of England already accepts some similar items as part of its liquidity operations, such as the Discounted Window Facility. Total covered bonds in issuance in Europe stands at €2 trillion, of which less than €100 billion are from the UK.

Mortgage finance is an area where strains are likely to emerge, particularly when the government’s banking support measures come to an end – a concern voiced recently by the Council of Mortgage Lenders. Because domestic deposits in the UK banking system don’t match the scale of assets to be financed, there is a large ‘funding gap’ that had historically been filled.
by the wholesale money markets, backed by securitized instruments. There is nothing wrong with securitization *per se*; the problem lay with its unnecessary complexity and a lack of standardized features.

The pre Budget report promised steps to develop a covered bond market in the UK on the same scale as that in Europe, where it is second only to the sovereign debt market. A strong covered bond market would provide a useful stepping stone towards more robust mortgage financing – but it would need support during the transition. This support could be provided by the Bank of England using QE money to purchase such instruments instead of government debt.

**Secure financing for government loan guarantees.** As Adam Posen has observed, small companies are overwhelmingly dependent on banks. During the worst months of the recession, demand for lending from small businesses actually fell, but recent surveys suggest it is rebounding (see Chart 14). A lack of supply in this area could impede the recovery.

Business representatives are also keen to see such problems dealt with; as Richard Lambert of the CBI said in November 2009: “Businesses want to adapt to a harsher credit climate by finding new sources of funding. Why not encourage new forms of institutions to finance the growth of small and medium-sized enterprises through equity and debt?”

The government’s Enterprise Finance Guarantee scheme (EFG) – which replaced the Small Firms Loan Guarantee Scheme – is intended to address this problem. This currently runs to £1.3 billion, and charges a fee of 1.5 per cent. It aims to guarantee financing to smaller firms that don’t have adequate security despite having a reasonable business plan. The scheme is currently operated by ‘Capital for Enterprise’, which although fully owned by the government operates at arm’s length. Decisions about exactly who is supported are removed from the Bank and the government.

The scheme has been popular. One way that QE could be extended and made semi-permanent would be for it to commit to funding the EFG for a longer period of time. This is something
the Federation for Small Businesses has called for. The Conservatives’ major complaint has been that the EFG is too small. They have proposed a £50bn National Loan Guarantee Scheme instead. The only confusion in their approach is in pretending that this is purely monetary policy, when it is at least half-fiscal, because of the high chance of losses that the taxpayer will need to indemnify. This is why it is ideal as an area where the Bank and government could work together.

**Investing in private sector funds that lend to the corporate sector.** Another useful idea is that large scale investment funds should be created for financing mid-sized companies that cannot access the capital markets directly. M&G has already set up a ‘UK Companies Financing Fund’, which tries to exploit the gap in the market left by the banks, by lending directly to medium-sized businesses. A credit-risk fund could invest in such funds, thereby supporting smaller business lending without picking winners itself. The Chancellor has showed an interest in developing this model further. While this could never replace banking, which benefits from a deep understanding of the finances of small companies through handling their transactions, it ought to help improve the access to finance in a vital area.

The recent *Rowlands Growth Capital Review*, set up to address the gap in the market for earlier-stage capital for smaller businesses, concluded that the problem will not be resolved without targeted government intervention. It proposed a co-investment model with private sector partners taking the lead. The credit-risk fund could help get such an idea off the ground.

**A National Infrastructure Bank.** The centre right think tank Policy Exchange has argued that the UK needs £500 billion of infrastructure investment over the next decade. Tight fiscal limits and a tendency for governments to cut capital spending first suggest that this funding cannot come from the government itself. The Liberal Democrat Treasury spokesman, Dr Vince Cable, was among those calling for a National
Infrastructure Bank (NIB) to be established to meet this need. The idea received support from the Institute of Civil Engineers, who have proposed that existing Treasury schemes like the Public Works Loan Board provide the capital for such a bank. The concept is similar to the European Investment Bank, which currently has over €320 billion outstanding in loans.

If both the government and household sector is going to deleverage, growth can only come from net exports or investment. Given the uncertain performance of the eurozone, Britain needs the latter to be strong. A NIB ought to be a useful way of encouraging a ‘surge in private and public investment’, as recently called for by Martin Wolf in the Financial Times.

Much of the funding for a National Infrastructure Bank ought to come from commercial sources so as to assert private sector discipline on its lending. But as Dr Vince Cable observes, “large-scale infrastructure financing will not happen... through private markets alone and government cannot afford to fund public investment directly”. A combination of public and private investment is needed. The structure proposed by Policy Exchange makes sense, with the credit risk fund taking a ‘senior’, lower risk tranche of debt in the bank, and the private sector taking a higher risk equity interest.

**A further infusion of equity into the banks.** Despite efforts to restructure the financial system, the UK will remain reliant on bank financing for the foreseeable future. Unfortunately, the current method of restoring them to health is not good enough. In the words of Professor Buiter, ‘Recapitalising banks slowly through large spreads on low business volumes and through quasi-fiscal subsidies extended by the central banks in their financial support operations will take years’.

Even in the United States, where credit easing has gone much further, financial conditions for smaller companies have remained tight, with a balance reporting worsening conditions throughout 2009. The US government is looking for ways of creating further incentives for small business lending.

Banking leverage in the UK is still worryingly high, and
concerns about insufficient capital must be playing some role in constraining credit supply. Considerable equity has been raised, but considerably more may be needed before banks become comfortable extending loans to a satisfactory degree. The recent Bank of England Financial Stability Report suggests that losses on commercial lending might require a further £30bn of fresh equity. The UK would surely recover faster if this recapitalisation was achieved soon – a move supported by the OECD.138

It is unfair and inefficient to wait until the banks have earned their way back towards full solvency, paying their staff bonuses along the way, before helping ordinary companies and households to obtain finance. The government should demand that this happen in the next few months, rather than waiting for internationally agreed capital requirements to be drawn up, forcing it to happen painfully over a period of years. The credit-risk fund could help underwrite further equity-raising. Getting this out of the way in 2010 ought to remove a significant source of uncertainty.
6. Conclusion

Quantitative easing represents the most radical monetary policy innovation since the Bank of England was granted independence in 1997. When QE was first unveiled, the press talked of ‘printing money’, brought out comparisons to Weimar Germany, and even conjured Milton Friedman’s idea of shovelling cash out of helicopters.\(^{139}\)

In many ways, the effects of QE have been every bit as dramatic as such imagery suggests. In the space of a few months, the Bank purchased almost a quarter of the national debt. It helped fuel the strongest rise in share prices since 1987, and a rebound in house prices that had been in steep decline. As a result, over a trillion pounds of privately-held wealth was preserved. Several massive banks that might have collapsed into government ownership are now reporting high profits and paying large bonuses, thanks in large part to quantitative easing.

QE may well have prevented a terrible situation from getting even worse, but against many of its stated objectives it has failed. For huge areas of the economy, hundreds of billions of pounds have been created to no discernable effect. Bank lending has not increased, and spending in the economy has stayed weak. When fiscal support is withdrawn, these failings may become ever more dangerous. A deep recession could be followed by a weak recovery or worse. In fact, with unemployment high, our European trading partners retrenching, and the government set on a fiscal squeeze, conditions would in many ways be more challenging than when the recession first started. Unlike in 2009, political capital may start running low, so that policymakers believe they have run out of ammunition for fighting the slump.
This paper argues that such a future can still be avoided. When an economy is operating far below its potential, it ought to be able to grow strongly without inflation. Only through growth can the government generate the revenues needed to tackle its debt levels. But to make this happen, quantitative easing must go where it is needed. For much of the economy, the credit crunch is far from over. Yet the policy as it is currently formulated helps only the government, big business, and the already wealthy – in other words, those groups in the economy that have no real difficulty borrowing. As a result, QE is both divisive and ineffective at stimulating the economy in the short term. Moreover, continuing market failures in small company finance put Britain’s long term economic prospects at risk, by undermining useful investment.

More government direction of QE would help remove these obstacles to growth. Firstly, it should supplement the Bank’s inflation target with a medium term growth objective. This will force the Bank to make it clear that it will not rest until Britain’s ailing economy is back on its feet. The fears of those who worry that the end of QE will herald another period of tight money may already be weakening the economy; supplementing the Bank’s remit should assuage such fears.

Secondly, the government should order the Bank to divert its efforts from the purchase of government bonds into actually providing finance to the private economy. QE could be doing more to ease the transition to an economy less reliant on highly geared banking, while giving support to sectors of the economy, such as small company financing, that are still suffering from a credit crunch.

With an election looming, it is astonishing that the major political parties are mute about the future of quantitative easing. Perhaps they are worried about crossing the line that separates fiscal and monetary policy. But this line was crossed long ago by the Bank itself. The next Chancellor will have few levers to pull as he seeks to stimulate an underperforming economy. If he doesn’t make QE more effective, he risks consigning Britain to years of avoidable misery.
Appendix 1: insufficient demand, and its causes.

A recession caused by a supply shock is like a bad harvest; with the economy able to produce fewer goods, people need to consume less to return the economy to equilibrium. If the same money demand is allowed to continue in the economy, prices will rise. So during a supply shock, like the oil shock of the 1970s, lower output and higher prices will be observed.

**CHART 28: A SUPPLY SHOCK**

A demand shock happens when there is suddenly less demand for the goods that an economy is capable of producing. This would produce lower prices and lower output.
After September 2008, inflation started falling and some prices even began to fall. Households started to save a greater proportion of their incomes in order to repay debt, and so spent less. Firms reduced output and ran down inventories because they expected less spending on their products. Workers drastically curtailed their wage demands, but unemployment still rose. All the outward symptoms suggested a demand shock – hence the Bank’s oft-repeated intention to increase spending in the economy.

There can be many causes of too little spending in the economy, but most relevant to this paper are those that concern private sector decisions to spend or save. Three broad types of explanation are of particular interest:

**Insufficient liquidity** People need liquid resources in order to spend. A lack of liquidity can force consumers or businesses
to put off consumption, making current activity weaker. This arguably characterised the early part of the credit crunch. When confidence in banks’ assets evaporated, the interbank lending market froze and liquidity was materially reduced. A liquidity crunch can force spending to fall, even if economic expectations are optimistic.

**Insufficient banking capital** Banks with insufficient capital try to avoid lending, even if liquidity is ample and cheap. There is wide agreement that the banking sector started to suffer from an acute solvency crisis in 2008, and needed more capital rather than just liquidity. For large parts of the economy, a bank loan is the only way to access finance, so fewer loans can force companies and households to cut their current spending and save more.

**Lower demand** Even if there was ample liquidity, and a well-capitalised banking sector, an economy might suffer from insufficient demand owing to pessimistic expectations and ‘debt aversion’. A sharp drop in asset prices and a deteriorating view about the economy’s future prospects caused current spending to drop. Radically changed financial conditions can cause households or companies to suddenly prefer debt repayment to spending, even if rates are low. Through expectations of deflation, this process can become self-fulfilling. For example, the prospect of lower prices can lead a prospective buyer to hold back from a house purchase, causing prices to fall yet further.
Appendix 2: Changing your mind about how it works

Over the past year, Bank of England spokespeople have shifted their emphasis in terms of how QE may work, reflecting differences of view and also adaptation to changing circumstances in the economy.

<table>
<thead>
<tr>
<th>Date</th>
<th>Speaker</th>
<th>Money increase</th>
<th>Asset prices</th>
<th>Corporate borrowing conditions</th>
<th>Bank Lending</th>
<th>Sentiment</th>
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<td></td>
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<td>12 Mar 09</td>
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</tr>
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</tr>
<tr>
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<tr>
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<td></td>
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<tr>
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<td>Speaker</td>
<td>Money increase</td>
<td>Asset prices</td>
<td>Corporate borrowing conditions</td>
<td>Bank Lending</td>
<td>Sentiment</td>
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Appendix 3: Assessing distributional consequences of asset growth

Wealth statistics are notoriously sparse in the UK. The analysis behind Chart 25 is therefore inevitably imperfect. It takes just two elements of wealth; securities and insurance policies that tend to increase in value alongside financial markets, and housing. Together, these account for about 70 per cent of wealth; the rest is divided between cash, other buildings and land, and other assets.

For an approximation of housing assets amongst households of various incomes, we take the British Household Panel Survey Wave 15, which was compiled in 2006 and therefore provides a reasonable snapshot at a time when houses were about as valuable as at present. For securities and other elements that are linked to stock market performance, we have estimated the distribution from ‘The distribution of wealth in the population aged 50 and over in England’ by the IFS. For the absolute levels of risky financial wealth, we take the HMRC’s data for 2003 and add together ‘Securities’ and ‘Policies of insurance’.

Any assumptions about the increases in the value of these items since March 2009 are necessarily imprecise. But a conservative estimate from the futures markets is that the value of housing may be 15 per cent higher than it would have otherwise been, and that the general level of financial assets may be 30 per cent higher.

The resulting estimates are also highly inexact; the underlying survey included only 8000 households, and may not be representative of the British population as a whole. Richer people are generally less likely than the poor to spend time with social studies surveyors. This is demonstrated by the fact that only 0.25 per cent of properties in the BHPS are worth over £1 million, whereas the true figure is closer to
0.6 per cent. We have also excluded the value of pension holdings, which are overwhelmingly owned by the rich and rise with the stock market. Adjusting for these factors would have produced an even more skewed picture in favour of the richest decile.
## Appendix 4: auction prices for the same gilts before and after QE

<table>
<thead>
<tr>
<th>Auction Date</th>
<th>Gilt Name</th>
<th>Amount (£m)</th>
<th>Price</th>
<th>Yield</th>
<th>Previous date</th>
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</thead>
<tbody>
<tr>
<td>6-Oct-09</td>
<td>4½% Gilt 2013</td>
<td>£5,390</td>
<td>107.95</td>
<td>2.08</td>
<td>22-Jan-09</td>
</tr>
<tr>
<td>1-Apr-09</td>
<td>4¾% Stock 2015</td>
<td>£3,500</td>
<td>112.49</td>
<td>2.63</td>
<td>11-Nov-08</td>
</tr>
<tr>
<td>21-Jul-09</td>
<td>4% Gilt 2016</td>
<td>£4,000</td>
<td>103.95</td>
<td>3.37</td>
<td>30-Oct-08</td>
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<tr>
<td>3-Jun-09</td>
<td>4½% Gilt 2019</td>
<td>£3,850</td>
<td>105.7</td>
<td>3.79</td>
<td>10-Feb-09</td>
</tr>
<tr>
<td>6-May-09</td>
<td>4½% Gilt 2019</td>
<td>£3,500</td>
<td>107.57</td>
<td>3.58</td>
<td>10-Feb-09</td>
</tr>
<tr>
<td>7-Apr-09</td>
<td>4½% Gilt 2019</td>
<td>£3,000</td>
<td>108.69</td>
<td>3.46</td>
<td>10-Feb-09</td>
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<tr>
<td>10-Mar-09</td>
<td>4½% Gilt 2019</td>
<td>£3,000</td>
<td>112.25</td>
<td>3.07</td>
<td>10-Feb-09</td>
</tr>
<tr>
<td>14-Oct-09</td>
<td>4¾% Stock 2020</td>
<td>£3,500</td>
<td>110.26</td>
<td>3.56</td>
<td>29-Jan-09</td>
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<tr>
<td>24-Nov-09</td>
<td>4% Gilt 2022</td>
<td>£3,750</td>
<td>100.43</td>
<td>3.95</td>
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<td>4% Gilt 2022</td>
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<td>23-Jun-09</td>
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<td>1-Oct-09</td>
<td>4¾% Gilt 2030</td>
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<td>4.06</td>
<td>4-Nov-08</td>
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<td>2-Jul-09</td>
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<td>£2,500</td>
<td>96.52</td>
<td>4.46</td>
<td>4-Mar-09</td>
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<tr>
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### Appendix 4: Auction Prices for the Same Gilt Before and After QE

<table>
<thead>
<tr>
<th>Auction Date</th>
<th>Gilt Name</th>
<th>Amount (£m)</th>
<th>Price</th>
<th>Yield</th>
<th>Previous Price</th>
<th>Previous Yield</th>
<th>Price Difference (%)</th>
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<td>107.95</td>
<td>2.08</td>
<td>22-Jan-09</td>
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<td>1-Apr-09</td>
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<td>112.49</td>
<td>2.63</td>
<td>11-Nov-08</td>
<td>104.49</td>
<td>-1.36</td>
<td>7.66%</td>
</tr>
<tr>
<td>21-Jul-09</td>
<td>4% Gilt 2016</td>
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<tr>
<td>10-Mar-09</td>
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<td>26-Feb-09</td>
<td>99.86</td>
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<tr>
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<td>4-Nov-08</td>
<td>97.33</td>
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<td>4¾% Gilt 2030</td>
<td>£2,250</td>
<td>105.01</td>
<td>4.39</td>
<td>4-Nov-08</td>
<td>97.33</td>
<td>-0.56</td>
<td>7.89%</td>
</tr>
<tr>
<td>3-Sep-09</td>
<td>4¼% Gilt 2039</td>
<td>£2,299</td>
<td>101.34</td>
<td>4.17</td>
<td>4-Mar-09</td>
<td>96.12</td>
<td>-0.31</td>
<td>5.43%</td>
</tr>
<tr>
<td>2-Jul-09</td>
<td>4¼% Gilt 2039</td>
<td>£2,500</td>
<td>96.52</td>
<td>4.46</td>
<td>4-Mar-09</td>
<td>96.12</td>
<td>0.02</td>
<td>0.42%</td>
</tr>
<tr>
<td>2-Apr-09</td>
<td>4¼% Gilt 2039</td>
<td>£2,250</td>
<td>99.88</td>
<td>4.26</td>
<td>4-Mar-09</td>
<td>96.12</td>
<td>-0.23</td>
<td>3.91%</td>
</tr>
<tr>
<td>2-Jun-09</td>
<td>4¼% Gilt 2049</td>
<td>£2,197</td>
<td>92.48</td>
<td>4.66</td>
<td>4-Feb-09</td>
<td>94.04</td>
<td>0.09</td>
<td>-1.66%</td>
</tr>
<tr>
<td>25-Mar-09</td>
<td>4¼% Gilt 2049</td>
<td>£1,750</td>
<td>95.24</td>
<td>4.51</td>
<td>4-Feb-09</td>
<td>94.04</td>
<td>-0.07</td>
<td>1.28%</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>£60,257</strong></td>
<td><strong>£1,881</strong></td>
<td><strong>-</strong></td>
<td><strong>-</strong></td>
<td><strong>-</strong></td>
<td><strong>-</strong></td>
<td><strong>-</strong></td>
<td><strong>-</strong></td>
</tr>
</tbody>
</table>

**Extra realised (£m):** £1,881
Appendix 5: has the Bank given too much to the market?

A closer look at the actual prices paid by the APF suggests that not all of the ‘overpayment’ implied by the Bank bidding up the prices of gilts has ended up with the government. While the government received higher prices than it would have in the period before QE began, it has actually received less than the APF has paid the market for the bonds.

CHART 30: YIELDS ACHIEVED BY THE GOVERNMENT SELLING AND THE APF BUYING

Note: the centre of the circles represents the yield and expiry, the size of the circles the amount sold or bought. A higher yield means a lower price.

In some cases, the government has sold that forces it to pay yields at a fairly considerable premium compared to those
being received by the Asset Purchase Facility. For example, on 2\(^{nd}\) June 2009, £2.17 billion of 4\(\frac{1}{4}\) per cent 2049 Treasury bonds were issued by the DMO at a price of 92.48. Between August and November, the Bank authorised the APF to buy £2 billion of these bonds at a weighted average price of 102.5. Had the government received this price instead, it would have received about £200m more for its debts. This missing amount represents profit for the market, in buying the gilts at a lower price and selling them higher.

Should this ‘overpayment’ raise suspicions? Several observations are in order here. The first is that the scale of both sales and purchases are unprecedented. The DMO is selling perhaps four times as much debt as it did in 2007, while the APF is likely to end up owning more government debt than any other institution ever has, in the space of just six months. Such large market operations are bound to distort prices. A second is that the APF is in the unusual position of being a fully observed buyer – a market participant whose actions can not only be reasonably guessed at, but are in fact announced by state officials well in advance of their taking place. This gives a huge advantage to existing members of the market. Thirdly, the cause of the supposed overpayment lies in just one or two bonds. This suggests bad luck. Finally, one should remember that there are two sides to this trade. The problem may lie as much with the DMO getting worse prices as with the APF overpaying.

So it may be an intrinsic feature of QE that the Bank authorises purchases that may result in a large capital loss. The bulk of this loss is recouped by the current government selling its debt on better terms than it would have, with the potential overpayment indemnified by future governments. By intermediating the purchases via the existing gilt market, the Bank took the risk that some of this overpayment may have gone towards increasing the profits of current participants in the gilt market. Compared to other advantages enjoyed by the financial markets since QE, half a billion pounds is actually a negligible amount.
Notes

2. G Wilkes, ibid
5. These govern the cost for banks to lend to one another, often referred to as LIBOR
9. Letters between the Chancellor and Governor laying out the scope and size of the Asset Purchase facility can be found here: http://www.hm-treasury.gov.uk/ukecon_mon_index.htm
10. The pamphlet is found here: http://www.bankofengland.co.uk/monetarypolicy/pdf/qe-pamphlet.pdf
14. For an example of this view, read Professor Congdon’s submission to the Shadow MPC, http://www.economicsuk.com/blog/001063.htm
18. CBI, ‘Recession is the catalyst for a decade of business change’, 23 November 2009
20. Financial Times, ‘Banks face increase in funding costs’ 11 November 2009
25. T Congdon, ‘The Unnecessary Recession’, Standpoint, June 2009
27. T Congdon, ‘How to stop the recession’, 2009
28. There are many definitions of money, going progressively wider. M4 includes demand deposits, savings accounts, money market accounts and other miscellaneous items that can serve the purpose. Data is here http://www.bankofengland.co.uk/statistics/ms/current/index.htm#
31. T Congdon, ‘Here is the way to end the recession with speed’, Financial Times,
25 February 2009

31 A Posen, ‘Getting credit flowing: a non-monetarist approach to quantitative easing’, 26 October 2009
32 Daily Telegraph, ‘Alistair Darling to increase sources of finance for small companies’, 13 September 2009
33 A Knight, ‘Community lending is not a realistic alternative to banking’, 25 August 2009
34 Financial Times, ‘Demand for ECB liquidity at six-year low’, 21 October 2009
35 R Skidelsky, ‘George Osborne fails to mind the output gap’, Sunday Telegraph, 20 September 2009
36 R Sousa, ‘Wealth effects on consumption’, May 2009
37 The Times, ‘The rich are back buying Bentleys, Rembrandts and pink diamonds’, 3 December 2009
38 Two prominent, though violently disagreeing proponents of this view are Professors Paul Krugman and Scott Sumner
39 M Wolf, ‘Credibility is key to policy success’, Financial Times 2 April 2009
41 http://blogsandwikis.bentley.edu/themoneyillusion/?p=2499
42 http://web.mit.edu/krugman/www/trioshrt.html
43 HOC Treasury Committee 24 March 2009
44 The Guardian, “Sterling falls as BoE says open to more liquidity”, 11 November 2009
47 The Independent, ‘British banks are ‘technically insolvent’”, 17 January 2009
52 D Miles, ‘Money Banks and Quantitative Easing’, 30 September 2009
53 Borio and Disyatat, ‘Unconventional monetary policies: an appraisal’, November 2009
54 From a private correspondence between the author and the Bank: “any accounting losses on the APF would be dwarfed in magnitude by the output, employment and fiscal losses from failing to stabilise the economy in the face of the financial crisis.”
55 The yield is inversely related to the price – the higher the yield, the lower the price
58 To make this calculation, we looked at one bond, the 2022 4% Treasury Bond, of which £9.5bn has been bought at about 100. Its maturity was close to the average of the portfolio as a whole. I have assumed that financing costs for the BEAPF – how much they have to pay for the money - are 0.5% for year 1, 2% for year 2 and whatever is expected nominal inflation plus 1 per cent for subsequent years. The yield demanded on the bond is assumed to be 1.2
per cent higher than expected nominal inflation, and the bond’s sensitivity to changes in demanded yield – its modified duration - is assumed to be 9.

Financial Times, ‘Soros calls Wall St profits ‘gifts’ from state’, 23 October 2009

W Buiter, ‘Reversing unconventional monetary policy: technical and political considerations’, CEPR, December 2009


Housing prices taken from the long standing Halifax index, now found here: http://www.lloydsbankinggroup.com/media1/research/halifax_hpi.asp


These figures are taken from www.spreadfair.com, which has since been discontinued. At time of writing, they offered closing prices at www.cantorindex.com, and shorter range prices are available at www.igindex.co.uk


Council of Mortgage Lenders, ‘CML cuts 2009 repossession forecast to 48,000’, 12 November 2009

Building Societies Association, ‘Further interest rate cut would be bad news’, 2 March 2009


Financial Times, ‘Bankers escape bonus blow’, 8 January 2010

A Haldane, ‘The debt hangover’, 27 January 2010

H McRae, ‘2009? It’s been a shocker. 2010? It will be better, but still not much fun’, The Independent, 20 December 2009; D Smith, ‘Bad, but this year could have been a lot worse’, Sunday Times, 20 December 2009

IFS, ‘The distributional effect of the 2008 Pre-Budget Report’, Table 9


R Prabhakar et al, “How to defend inheritance tax”, 2008


The VAT paid by households across the income distributions demonstrate this. In 2007/8, the top quintile with a disposable income of £55,000 paid £3388, suggesting just £19,000 spent on VAT-able goods – about a third. The bottom quintile, with a disposable income of £9900, paid £1200, implying £6800 of spending, or two thirds.

M Wolf, ‘How to share the losses: the dismal choice facing Britain’, Financial Times, 16 December 2009

Daily Telegraph, ‘Inflation is the greatest danger to the British economy’, 21 February 2009


A Posen, ‘Getting credit flowing: a non-monetarist approach to quantitative easing’, 26 October 2009


Credit where it's due

88 See The Economist, ‘Round and round it goes’, 22 October 2009
89 http://www.treas.gov/tic/mfh.txt
90 F Mishkin, ‘Not all bubbles present a risk to the economy’, Financial Times, 9 November 2009
92 G Trefgarne, ‘Quantitative easing’, Centre for Policy Studies, November 2009
93 G Wilkes, ‘Slash and grow? Spending cuts and economic recovery’, October 2009
95 KPMG, ‘Jobs outlook worse this quarter as pain spreads to public sector quicker than private sector recovery, says CIPD/KPMG quarterly Labour Market Outlook survey’, 15 February 2010
96 Institute of Fiscal Studies, ‘Green Budget’, February 2010
97 British Chambers of Commerce, ‘The message from business is clear: reduce the deficit and scrap the NICs hike’, 15 February 2010
99 D Wighton, ‘Bank’s line on QE is looking peculiar’, The Times, 11 February 2010
100 Free Exchange, ‘The roadmap for more Fed easing’, 4 December 2009
101 A consistent advocate of the savers’ cause is Dr Ros Altmann. See R Altmann, ‘The injustice wreaked by rate cuts’, 13 February 2009
102 The Independent, ‘King hints at a gentle end to printing money early next year’, 25 November 2009
103 This benefits from a useful discussion on Nick Rowe’s blog, ‘In praise of (a little bit of) fiscal dominance’, which can be found here: http://worthwhile.typepad.com/worthwhile_canadian_initi/2009/11/in-praise-of-a-little-bit-of-fiscal-dominance.html
104 G Eggertsson, ‘How to fight deflation in a liquidity trap: committing to being irresponsible’, 2003
105 G Eggertsson, ibid
106 M Dicks, ‘The effect of the financial crisis on the UK’s productive capacity: surveying the damage’, IFS Green Budget, February 2010
108 M King, Remarks at a Bank of England dinner, 14 October 2003
109 Financial Times, ‘Keep keeps focus on output gap’, 15 September 2009
110 E Conway, ‘A dose of double-digit inflation may be wishful thinking’, Daily Telegraph, 17 December 2009
111 Sir John Gieve, ‘Seven lessons from the last three years’, 19 February 2009
112 See the press release from the Treasury: http://www.hm-treasury.gov.uk/uk_asset_purchase_facility.htm
113 Financial Times, ‘Lending facility for smaller businesses unused’, 26 January 2010
114 On Stephanie Flanders’ blog, ‘Stephanomics’
115 Financial Times, ‘Institute calls for stability before cuts’, 3 February 2010
The EFG is meant to be a larger scheme than the SFLG, which only offered £178 million in guarantees in its last year. The EFG aims to offer much larger loan guarantees to larger companies.

Conservatives, ‘Where we stand’, on [www.conservatives.com](http://www.conservatives.com)

Daily Telegraph, ‘Alistair Darling to increase sources of finance for small companies’, 13 September 2009

Department of Business Innovation and Skills, ‘The Provision of Growth Capital to UK Small and Medium Sized Enterprises’, 23 November 2009


Institute of Civil Engineers, ‘National infrastructure bank calls stepped up ahead of pre-budget’, 12 November 2009; ICE, “Funding future infrastructure projects”, October 2009

M Wolf, ‘The world economy has no easy way out of the mire’, Financial Times, 23 February 2010

Dr V Cable, ‘Vince Cable launches proposals for a National Infrastructure Bank’, 25 November 2009

W Buiter, ‘Quantitative easing, credit easing and enhanced credit support aren’t working; here’s why’, 3 July 2009

See the Federal Reserve’s ‘Senior Loan Officer Opinion Survey on Bank Lending Practices’

Reuters, ‘New US bank plan offers lending incentive –Geithner’, 3 February 2010

OECD Economic outlook, November 2009


HMRC data indicates can be found at [www.hmrc.gov.uk](http://www.hmrc.gov.uk)

For example, the survey had only 0.8% of households reporting £100,000 of labour income; but over 2% of Britons in fact earn this much