



Strategic quantitative easing:

Stimulating investment to rebalance the economy

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Executive summary

The Bank of England's programmes of Quantitative Easing (QE) and Funding for Lending (FLS) are failing to stimulate GDP and rebalance the economy.¹ Both policies falsely assume that the UK's risk-averse capital markets, corporate sector and constrained banking system can be nudged into supporting the productive economy. We propose a new approach: one that channels investment directly into new housing, infrastructure and SME lending, boosting productivity and exports. QE must become less scattergun and more strategic, with reformed governance structures to match.

The impact of QE: theory and evidence

The way QE has been interpreted and applied in the UK has benefitted some parts of the economy at the expense of others. While it has assisted some borrowers (including the Government) who have enjoyed lower medium and long-term interest rates, it is bank credit for productive GDP transactions, not interest rates, that is the primary driver of nominal GDP. In other words, success in lowering interest rates does not necessarily translate into success in stimulating the real economy.

In theory, QE should induce investors to move money away from holding government debt and into the corporate sector, boosting investment, production and employment. But it is highly uncertain that this mechanism of 'portfolio rebalancing' works in reality. Instead – as evidenced by current volatility in stock, bond and currency markets – investors reacting to QE are likely to channel their money mainly into financial assets. This inflates the price of such assets, and enriches the assets' owners, with minimal positive impact on the real economy.

If it is broke, don't use it: FLS and the problem with trying to get banks to lend

Funding for Lending has stimulated bank credit for the real economy more directly than QE. But in practice this credit has mainly been in the form of mortgage debt rather than corporate lending, and has been severely constrained by the continued weaknesses of bank balance sheets.

Even if bank lending does increase, we cannot be sure that it will lead to output, investment and employment rather than a new house price, commodities or stock market boom. Chronic structural weaknesses and perverse regulatory incentives mean that, without further policies, reliance on the UK banking system is not an effective channel for stimulating or rebalancing the economy.

Strategic QE: public money for public benefit

It is time to seriously consider more strategic use of the Bank of England's powers as a bank.

An estimated £550bn of investment in new low-carbon infrastructure is required over the next 10 years in the UK,² and housing construction remains at its lowest level in the post-war period. We therefore propose that the Asset Purchase Facility buys bonds issued by agencies with a specific remit for productive investment within the UK, such as in housing-building and retrofit, infrastructure and small and medium enterprises (SMEs).

Both government and opposition parties now support the economic case for a national development bank. However – as is the case with our Green Investment Bank – lack of a banking license and the Government's reluctance to commit taxpayer funds will severely limit the British Business Bank's scale and impact. Total capital for both these institutions of less than £4 billion compares with balance sheets of over £200bn for the Brazilian development bank and £400bn for Germany's KfW.

Central bank support for national infrastructure investment has worked before. The Industrial Development Bank of Canada, which supported Canadian SMEs from 1946-1972, was capitalised entirely by the Central Bank with not a single penny of taxpayers' money required. In New Zealand in 1936, the central bank extended credit for the building of new homes, helping the country out of the Great Depression. Moreover, the majority of the UK's major international competitors, including emerging market economies, have public investment banks or equivalent funds supporting infrastructure or SME financing.

We also examine the case for the APF purchasing a wider range of assets from banks in order to free up their capital for more productive lending. This has been successful in the USA and might improve the impact of QE here, but overall we recommend strategic QE as the best approach to rebalancing the UK economy.

Getting the governance right: the fiscal/monetary policy mix

Would strategic QE blur the line between monetary and fiscal policy? In reality the distinction has always been blurred. We should now be asking what governance systems could allow us to carry out hybrid monetary/fiscal measures, and then selecting the most effective tools to deploy.

We suggest the formation of a Monetary Allocation Committee that would be accountable to the Treasury and Parliament but separate from the Bank of England's existing Monetary Policy Committee (MPC). The new committee would decide how best to allocate new QE funding and any reinvestment of maturing gilts (almost £100bn are being repaid over the next five years). The committee would be charged with carefully examining different sectors of the economy and spare capacity within them. It would make allocation judgements based on a broad range of macroeconomic and policy criteria, such as sustainable GDP growth, employment, financial stability, the trade balance and inflation and ecological sustainability. Meanwhile, the independent MPC would remain in charge of determining the quantity of Bank of England reserves created and remain accountable for inflation. This would maintain an appropriate separation of powers and ensure that inflation expectations remained anchored.

We have already entered the world of monetary policy activism; let's make it as effective, transparent and accountable as possible.

1. Introduction: public money for public good

When banks extend loans to their customers, they create money by crediting their customers' accounts. The usual role of a central bank is to limit this rate of money creation, so that an excessive expansion of money spending does not lead to inflation. But a damaged banking system means that today banks aren't creating enough money. We have to do it for them.

Mervyn King, Governor of the Bank of England, October 2012³

[E]specially as fiscal policy becomes constrained by budget stringency ... monetary policy is the main instrument for affecting macroeconomic performance. That this key determinant of what happens to society – this key collective action – should be so removed from control of the democratically elected officials should at least raise questions.

Joseph Stiglitz, 1998⁴

1.1 What this report is about

We are caught on the horns of a dilemma. After the bursting of a credit-fuelled bubble, we want our banks to shrink and repair their balance sheets. But at the same time we want them to expand credit to fund investment in the real economy. Large corporations, who have cash, seemingly lack the confidence to invest or expand production. Meanwhile, the Government is cutting expenditure to try to reduce its deficit. So where will the money come from to kick-start the economy?

In this report we suggest a solution. Most people perhaps are still not aware that our money supply is created primarily by commercial banks, and hence shrinking banks means less money flowing into the economy. The inelegant phrase 'quantitative easing (QE)', on the other hand, has certainly entered the popular consciousness. Public institutions, in the shape of the Bank of England, can create money, too. So far it has created £375 billion under the QE programme, prompting two crucial questions: How well has this worked? and Could we do better?

We argue that the use of the Bank of England's powers, through QE and other schemes, has not been effective in stimulating an economic recovery. Neither will it contribute to the Government's stated objective of rebalancing the economy towards manufacturing and exports. We explain why this is the case, in theory and in practice.

We propose that the programme of QE be modified to be less scattergun and more strategic. Specifically we propose that it directly finance investment in the real economy. Importantly, we address the valid concern that unconventional monetary policy might be subverted by short-term political pressures, risking loss of control of inflation.

In essence, the solution is to mandate the Bank of England to act more like a bank.

1.2 Structure of the report

In Section 2, we briefly outline the basics of the role of banks, governments, and the central bank in the business of lending and money creation. We highlight the significance for economic performance when bank credit is abnormally constrained, and then describe key issues facing the UK economy. We outline the economic strategy of the Government since 2010, i.e. to combine fiscal consolidation with monetary activism, and examine some of the innovations in monetary policy that have taken place in response to the financial crisis.

In Section 3, we explain the economic theory of QE and the institutional arrangements for its implementation. We dispel some popular myths about what it is and how it works. The Bank of England is neither printing money nor giving it away to the banks or anyone else. In essence it is extending a very large long-term and very low interest loan to a newly created body – the Asset Purchase Facility – which has used this almost entirely to purchase government bonds.

The impact of QE, and other unconventional policy measures, is assessed in Section 4. We examine a range of empirical evidence, including our own econometric analysis of the primary drivers of nominal gross domestic product (GDP).

Based on this analysis, in Section 5 we set out two proposals for more targeted use of QE to achieve greater impact on nominal GDP and specific macroeconomic variables, such as production and employment. We conclude that the purchase of bonds in institutions with specific investment mandates for small and medium enterprise (SME) lending, infrastructure, and housing construction is both viable and desirable.

In Section 6, we consider reforms to institutional arrangements that recognise the blurring of fiscal and monetary policy that has already taken place, and that can better accommodate the competent execution of more strategic QE. We propose the creation of a Monetary Allocation Committee and a separation of powers between it and the Bank of England's Monetary Policy Committee (MPC).

Section 7 concludes.

2. Money, credit, and economic policy

The financial crisis of 2008 and the resulting recession have refocused attention on the role of bank credit in stimulating the economy. In order to review the interventions of the Government and central bank in context, we need to briefly examine the significance of money creation and how this relates to economic policy and performance in the UK.

2.1 Who creates money?

In modern capitalist societies such as the UK, the vast majority of new money, around 97 per cent, is created by commercial banks. When banks extend credit they add brand new electronic deposits to the borrowers' accounts.⁵ This has profound economic consequences, as Mervyn King, Governor of the Bank of England, alludes to. If commercial banks decrease their net lending⁶ to households and businesses, the flow of new money into the economy falls and fewer economic transactions can take place. The economy will contract. Since 2007, this is exactly what has happened. There has been a huge decline in money created for the real economy⁷ and whilst the rate of growth in lending has stabilised, it remains negative for businesses and well below its historical 5 per cent growth average (Figure 1).

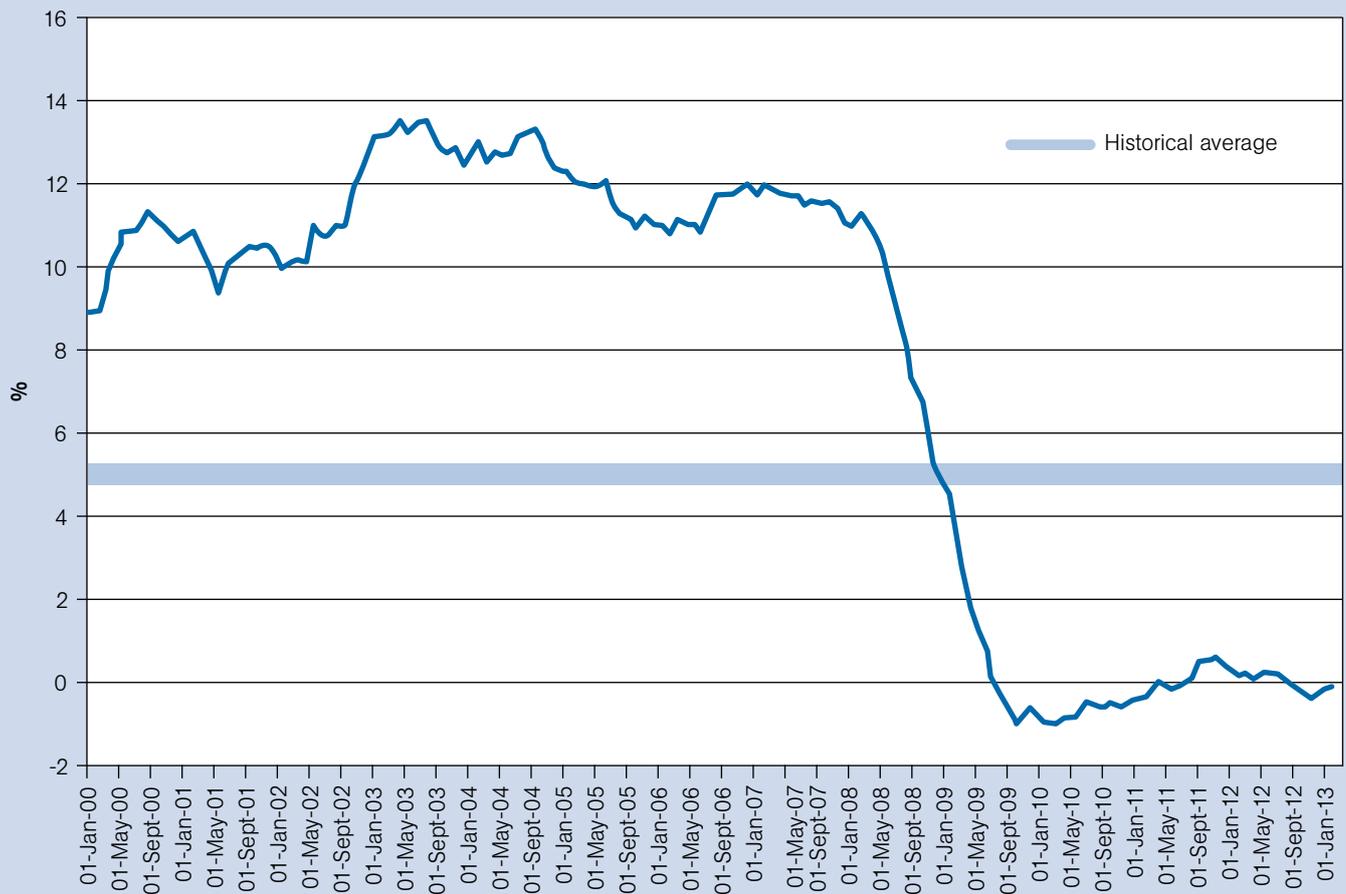
Understanding the money-creation process is crucial to understanding the dilemma currently faced by the UK economy. We are overburdened with private debt, public debt has risen rapidly as a result of the banking crisis and recession, and yet there is too little money flowing through those parts of the economy that will generate investment and consumption, and thereby production and jobs. The key to this is the impact of credit on different sectors of the economy. When a new bank deposit is created, it matters enormously in whose hands the deposit is, and what they intend to do with it. It is possible for banks to reduce overall lending while increasing lending for investment and consumption.⁸ Reducing credit to businesses and householders means taking money out of the real economy, thereby depressing economic activity. It is the latter course that we have been following, as Figure 1 demonstrates.

The Government is prevented under EU legislation⁹ from making up for this shortfall in bank lending by requiring the central bank to purchase newly issued government bonds. This system is intended to exert financial discipline on governments to prevent their access to central bank 'printing presses' with potentially dire inflationary consequences. However, the current practice of QE has severely reduced the meaning of such legislation. Furthermore, alongside the examples of the Weimar Republic in the 1920s and Zimbabwe in the 2000s which are often cited as 'proof' that government control of money creation is always and inevitably hyperinflationary, there are many historical examples of governments directly creating debt-free money responsibly and with good effect, but the debate around sovereign money is not for this report.^{10,11}

So the Government does not directly print money, which, like the issuance of coins, could be considered as an asset rather than a liability of the state. Instead, the Government increases spending by borrowing more from financial markets, thereby increasing national debt. It has indeed massively increased borrowing since the start of the crisis, mainly to meet the costs of bailing out banks and the wider costs of recession, such as unemployment, housing benefits, and tax credits.

However, government borrowing does not have the same effect as the money *creation* process that banks carry out. The same purchasing power is being put to a different use, and so rather than creating new money, the Government is reallocating existing money.¹²

Figure 1. Bank lending to businesses and households, 2000–2013.



Source: Bank of England, Funding for Lending Measure, code LPMV6PI

The Bank of England, unlike the Government, has the power to create money both in the form of tangible paper money that circulates in the economy, and also in the form of loans, just as commercial banks do. But the amount of physical cash circulating is limited by the decreasing preference to hold cash, which now accounts for only 3% of the total money supply. QE has not been aimed at increasing cash and so it is incorrect to describe it as 'printing money'. Instead, the process of QE essentially involves the Bank of England extending a very large loan to the Asset Purchase Facility (APF), which uses the money to buy assets. This process does not create permanent new debt-free money, as for instance the issuance of state money would, and hence it is also misleading to describe it as printing money even in a metaphorical sense. The intention is for the loan to be repaid in full, at which point the money will be drained back out of the economy in the same way as when commercial bank loans are repaid. Those who describe QE as printing money must logically also describe a new loan from the Royal Bank of Scotland, or any other commercial bank, as printing money. We will describe how QE works in detail in Section 3.

2.2 UK economic policy and performance

It has now been more than five years since the 2007/2008 financial crisis. Yet the economy shows little sign of recovery – indeed this has been the slowest recovery from a major recession in two centuries,¹³ worse than the Great Depression. After 64 months, GDP remains 2.6 per cent below its 2007 pre-crisis level, a loss of output that the Bank of England has compared to a World War.¹⁴ Of the G20 club of large economies, only Italy has fared worse than the UK in the post crisis-period.¹⁵

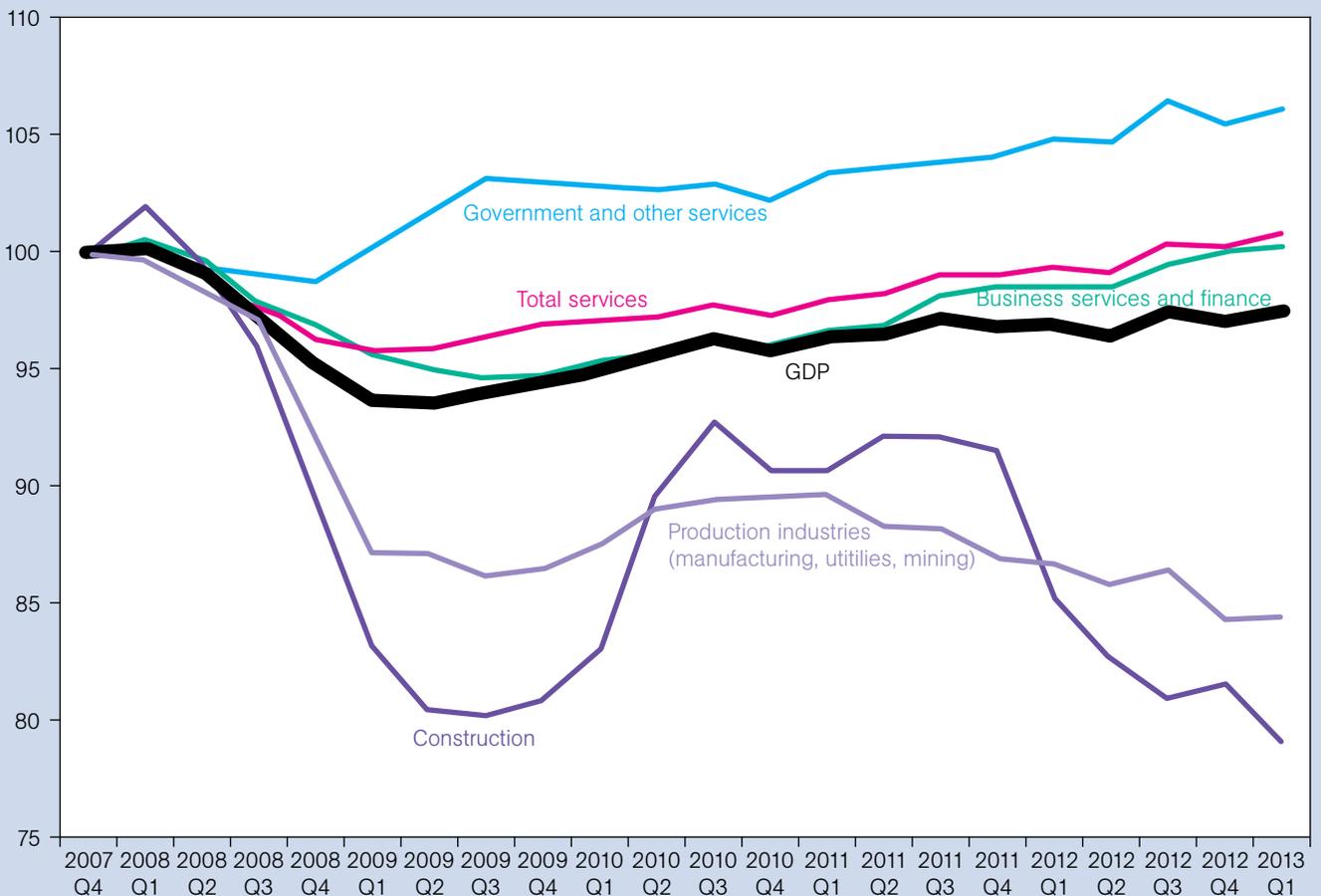
In response, the Government's economic policy since 2010 has been to combine fiscal consolidation with monetary activism.

- Fiscal consolidation involves cutting public spending in the hope of reducing the 'structural' deficit (the cyclically adjusted difference between spending and income over the course of a year) and eventually bringing down the public-debt-to-GDP ratio.
- Monetary activism involves the Bank of England creating effectively negative real interest rates to entice households, banks, and companies to start spending or lending rather than saving or paying back debts (de-leveraging).

The theory is that the private sector will 'take up the slack' and invest as the public sector reduces spending, and international markets will keep interest rates low. Private sector employment (mainly in the service sector) has been expanding in recent years but research suggests much of these jobs are part-time or held by self-employed workers who in previous, less severe downturns might have pulled out of the workforce completely to search for full-time work.¹⁶ The unemployment rate remains high at 8 per cent suggesting considerable slack in the economy.

But, as the Government has repeatedly stated, the UK economy also needs to rebalance. Instead of growth coming primarily from the service, financial, and public sectors, it should come from the productive sectors – high-value manufacturing and other export-orientated industries – to help improve the UK trade balance, which has stayed stubbornly in deficit since the late 1990s¹⁷ – and from construction and infrastructure investment to create the platform for longer-term productivity increases. The latest data show little sign of recovery in those key sectors; rather they continue to contract (Figure 2). The level of industrial production in Britain is now at the lowest level since 1991 and around 15 per cent below the pre-recession peak.¹⁸

Figure 2. Change in real output by sector since financial crisis, rebased (2007=100).¹⁹



Source: ONS

Ironically, even in the face of the most severe austerity policies since World War II,²⁰ it is government and other services which show the highest levels of growth.

Recent decisions suggest that the Government believes that the quickest way to reflate the economy is by getting banks to extend more mortgages. This is suggested by both the Funding for Lending Scheme (Section 3.4) on behalf of the Bank and the 'Help to Buy' scheme announced in the Spring Budget.²¹

From a macroeconomic perspective, this policy appears misguided for a number of reasons. First, it involves creating even more private debt. The Coalition Government has focused its attention on the UK's public debt and the deficit. But the reality is that the UK has a *private* debt problem. Private debt is currently over 400 per cent of GDP whilst public debt is just 80 per cent. Household debt stands at 100 per cent of GDP.²²

Secondly, as the Office of Budget Responsibility, amongst others, has suggested, the policy risks inflating another housing bubble if the new credit is not matched by an increase in the supply of new homes, and there is little evidence of this being forthcoming (Section 5). Academic studies across different countries and time periods show large increases in household credit to be a strong predictor of financial crises and volatility.^{23,24}

Thirdly, households generally spend credit on consumption not on investment. This will not help rebalance the economy or address the UK's trade deficit (Figure 4). Buying new cars or carrying out home improvement mainly involves importing goods from abroad. Studies of the impact of increases in household credit show strong evidence that it leads to deterioration in the trade balance.^{25,26}

Fourthly, as argued in a recent **nef** report on macroeconomic strategy,²⁷ the UK needs to find a way of weaning itself off a reliance on flows of footloose international capital to prop up the economy and fund our current account deficit.

The need for a domestic source of investment and productive credit creation is even greater when we consider the state of the UK banking sector. Whilst households and businesses hold a dangerously large amount of total debt, the most serious concern is the financial sector which remains hamstrung by non-performing assets and the need for banks to shrink their balance sheets and rebuild levels of core capital.

On a theoretical level, it is well-established that domestic investment is the driver of economic growth. For this to take place, funds are needed. At the same time, there is ample evidence that firms, especially SMEs, are credit rationed and would like to borrow more for investment than they are currently receiving.²⁸ However, who provides the funds is also important. Government initiatives to obtain direct funding by investors, for instance via tax-advantaged venture capital schemes, or by encouraging equity issuance, cannot substitute for bank credit: such 'direct' finance merely transfers existing purchasing power. Bank credit creation, on the other hand, expands the effective money supply and ensures that more purchasing power is being exerted.²⁹ However, even bank credit creation may not necessarily be the answer: it can be extended for transactions that do not contribute to GDP (financial transactions that influence asset prices), for unproductive consumption (boosting inflation), or for productive investment delivering growth.³⁰ Only the latter type of bank credit creation is sustainable and comes without undue cost to society, especially when productivity is defined to be consistent with environmental and ecological imperatives.

In summary then, what is required is a massive investment of domestic capital in the productive sector. As we shall see, however, the Bank of England's £375 billion programme of asset purchases – and other interventions – has failed to provide such a stimulus. We turn next to a description of monetary policy and how it has developed since the financial crisis, before we examine the theory of QE in Section 3.

2.3 Monetary policy and central bank operations

In much of the media reporting of QE and other central bank activity, you will read phrases like ‘printing money’ or ‘giving money to the banks’. These are misleading expressions. The Bank of England is a bank, but one with unique characteristics and responsibilities that we describe in this section.

2.3.1 Central bank interaction with banks

Just like commercial banks, the Bank of England has a balance sheet with assets and liabilities, and just like commercial banks it can create money by making loans. There are important differences however:

- Commercial banks create **bank deposits** (commercial bank money or broad money), i.e. the type of money used by everyone in the economy. The amount of money that any individual bank can create is determined by regulatory constraints, balance sheet constraints (their liquidity and capital positions), institutional and financial infrastructure constraints (whether they can access funding in wholesale and capital markets), the internal management and incentive structure (such as the bonus culture, etc.), and by their confidence in the economy.
- The central bank creates **bank reserves** at the central bank (narrow money or base money, henceforth referred to as ‘central bank reserves’), which is a type of money that can only be used by commercial banks to make payments between themselves. Although sometimes referred to as ‘money’ (narrow money or reserve money), central bank reserves are not money that is available to households and businesses to use and rather than circulating in the economy they stay on the central bank balance sheet. The amount of central bank reserves the central bank can create is constrained only by the need to maintain confidence in the currency itself. Unlike commercial banks, the central bank has no liquidity, capital, or funding constraints.

As shown in Figure 3, when the central bank makes a loan to a commercial bank, it simultaneously *creates* central bank reserves for the commercial bank. For the commercial bank, its holding of central bank reserves in an account at the Bank of England is very much like our holdings of bank deposits at our own bank. The commercial bank pays interest to borrow these reserves. The rate of interest is the ‘bank rate’ or ‘policy rate’ which the Bank of England meets to discuss every quarter and which makes a lot of news since it affects all the other interest rates in the economy. These reserves can be used to settle payments between banks when customers transfer deposits. They are thus vital to the health of the economy.

Figure 3. Balance sheet interaction between a central bank and a commercial bank

Commercial Banks		Central Bank	
Assets	Liabilities	Assets	Liabilities
What borrowers owe to the bank	What the bank owes to customers		
Loan to customers	Deposits of customers	Loans to private banks	Reserve deposits of private banks
+ Central bank reserves	+ Loans from central bank		

The Bank of England has another important function: acting as the Government’s banker. In this role the Bank of England holds and thus has access to the Government’s reserve account and hence the Debt Management Office (DMO). It can borrow and return government bonds from the DMO, which it can then lend to banks. Government debt instruments have a range of maturities, ranging from 25 years down to just three months (the latter called Treasury bills or T-bills). The Bank of England is able to borrow T-bills from the Government and lend them to commercial banks. This activity does *not* involve the creation of new reserves but helps commercial banks to manage their liquidity effectively. Commercial banks can easily trade T-bills for central bank reserves in the interbank market.

When you get a mortgage from a bank, you have to pledge some form of collateral in return (usually the house itself) as well as paying interest to the bank. In just the same way, when the central bank makes a loan of central bank reserves or T-bills, it also takes collateral. In this case the collateral will be another financial asset on the commercial bank's balance sheet. The central bank today prefers only very 'high quality' assets as collateral, usually government bonds (gilts) or investment grade corporate bonds (i.e. corporate bonds that would easily sell on financial markets). As we shall see, however, central banks are free to purchase or accept as collateral any kind of assets they wish, and have done so throughout history for a range of different objectives. The European Central Bank (ECB) currently accepts various kinds of assets, including loans, as collateral from banks.

It should be noted that the Bank of England, just like a commercial bank, will want to have the option of calling in its loan at some future point in time. It can achieve this easily by using repurchase agreements (repos) and reverse repurchase agreements (reverse repos). When the Bank of England conducts a repo it sells an asset, such as a T-bill, to the bank in exchange for central bank reserves, but with a legal agreement to buy the asset back again after a set period of time. This process of lending and withdrawing reserves on a fairly short-term basis is called Open Market Operations (OMOs). They have been a tool of central banks' monetary policy since their inception.³¹ As the Bank of England itself has noted:

There is nothing unusual about central banks purchasing assets per se... QE is just a return to the classic policy operation of the textbook: an open market operation. The only things that distinguish the present operation... are the circumstances under which they are taking place and their scale.³²

The difference between a central bank and a commercial bank is that that a central bank will make decisions about creating central bank reserves based on the stability of the banking system and other broad macroeconomic concerns, whilst a commercial bank's creation of bank deposits is simply dictated by its own efforts to maximise profits. As already noted, the rate of interest that the Bank of England will charge on short-term loans to commercial banks is known as the official bank rate, or base rate, and manipulating this interest rate is the primary tool of conventional monetary policy.

2.3.2 Conventional monetary policy

The objective of monetary policy is said to be primarily to achieve price stability, often defined as a low and stable rate of inflation. The Bank of England is tasked with keeping inflation at 2 per cent over the medium term. Sometimes broader macroeconomic goals are included, such as the US central bank's twin objectives of achieving maximum sustainable output and price stability.

Modern monetary policy is conducted mainly through adjustments to interest rates. The official description is along the following lines: when the central bank believes that the economy is heating up, it will raise interest rates to dampen economic activity. Conversely, if too little economic activity is taking place, the Bank of England will lower the bank rate on the basis that, since interest rates are the driving force of economic activity, this will stimulate growth.

This theory is contested and there is evidence that interest rates tend to follow, not lead, economic growth and are positively correlated with it.^{33,34} Nevertheless, even if we accept the theory, a problem arises when interest rates have been lowered so many times – and without the desired effect – that they approach zero. The same economic theory would then suggest that interest rates would need to fall below zero, becoming negative – in effect punishing banks for holding reserves with the central bank by requiring them to pay a fee. This is widely described as interest rates 'reaching the zero lower bound'. In such a situation, commonly termed a 'liquidity trap', the core mechanism of monetary policy seems to fall apart.

2.3.3 Japanese deflation and the origins of QE

When the Bank of Japan faced this situation in the 1990s, it stuck rigidly to the conventional view that ever further interest reductions were necessary and the only policy available. However, when it had reduced short-term interest rates from 7% at the beginning of the 1990s to 0.001 per cent at the end of it, the results were not

Box 1. Monetarism and the money multiplier myth

Monetarism, commonly associated with the economist Milton Friedman, is a school of economic thought which emphasises the need for governments to control the quantity of money in circulation in order to stabilise the economy and prevent excessive inflation or deflation. However, by 'money', monetarists historically meant central bank reserves (and notes and coins) rather than credit from commercial banks. Initial monetarist theory rested on the existence of the 'money multiplier' to allow control over bank credit. This theory suggested that there is a mathematical link between the quantity of base money and bank deposits in the economy. Since banks need reserves in order to settle payments with each other, they will only create credit in relation to the reserves they possess. So by expanding base money, the central bank can increase credit and vice versa.

The money multiplier theory is not supported by evidence, however. First, deregulation of the financial sector means that banks have no obligation to hold any ratio of reserves to deposits. Secondly, the historical record shows us that banks tend to lend on the basis of their confidence in the borrower and perceived profitability and then seek out the necessary reserves required to settle any payments after making the loan.

Indeed the experience of monetarist policies in the UK confirms this. When the policy of 'monetary base control' proved ineffective at controlling bank credit, monetarist policies evolved to attempt control the growth of Sterling M3, a broader measure of the money supply, through manipulating interest rates.

Central banks now widely see the money multiplier theory as outdated, agreeing that money creation is 'endogenous' – i.e. it cannot be controlled by the central bank through altering the quantity of central bank reserves.

impressive: Japan remained mired in deflation. Thus, in March 2001, the Bank of Japan adopted a new policy of significantly expanding the quantity of central bank reserves in the hope of boosting bank lending. This policy was based on monetarist theory (Box 1) which was common among central banks in the early 1980s, but abandoned due to its ineffectiveness.³⁵

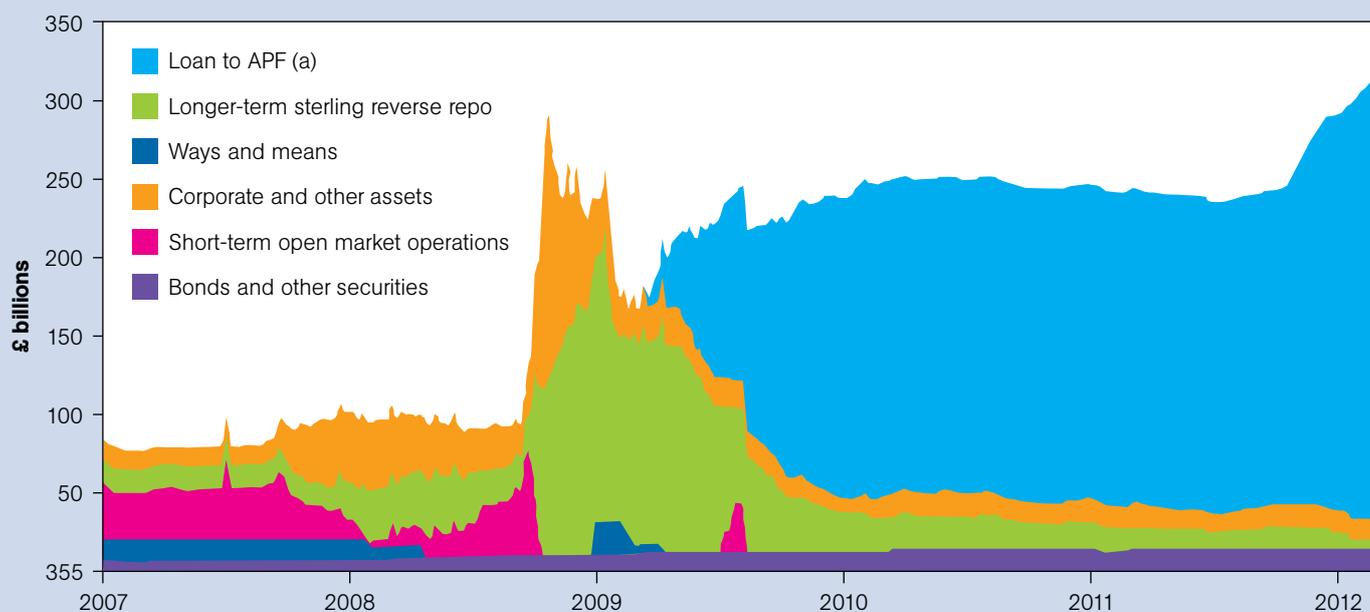
Unfortunately this massive expansion in the quantity of central bank reserves was no more effective in stimulating an economic recovery than the previous cuts in interest rates had been. However, the label used by the Bank of Japan for the policy – quantitative easing – caught the imagination of investors and commentators. Ironically the term was originally defined by one of the authors of this report to mean expanding *credit creation* (not central bank reserves).³⁶ Nevertheless base money expansion is now commonly referred to as 'quantitative easing', or QE.

2.3.4 UK monetary policy since the financial crisis

As shown in Figure 4, the bank has expanded its balance by a factor of five in the five years since the financial crisis. What does this mean? The expansion can be thought of in two distinct phases. The first phase, from the end of 2007 until the end of 2009, was mainly about stabilising the financial system by injecting a massive amount of liquidity (central bank reserves or Treasury bills) into the banking system following the credit crunch and the collapse of Lehman Brothers in September 2008. Once the system stabilised, the second phase, from 2010 onwards, has been about trying to kick-start the economy. Several difference types of intervention have taken place:

Longer-term sterling reverse repos (green shading Figure 4) represent the Bank of England expanding the purchases of assets at the height of the financial crisis. The Bank of England also expanded the type of collateral it would accept in exchange for three-month Treasury Bills from high-quality sovereign securities to include AAA-rated residential mortgage-backed securities (RMBS) and covered bonds. Initially, these extended-collateral long-term repos (ELTRs) were offered in monthly auctions of £10 billion, with the sizes of subsequent auctions reflecting financial market conditions at the time. In particular, in the wake of the disruption to the global financial system in the autumn of 2008, these operations were offered in greater size and at greater frequency, and the range of eligible collateral was further expanded to include securities backed by commercial mortgage assets and corporate debt. At their peak during January 2009, the

Figure 4. Bank of England assets, 2007–2012.



Source: Bank of England

stock of outstanding ELTRs reached £180 billion.³⁷ The Bank of England also bought commercial paper (shorter-term corporate debt) in significant amounts in 2009 (see ‘other assets’ in Figure 4).

In April 2009, in a bid to unfreeze the money markets, i.e. encourage interbank short-term lending of reserves, the Bank of England launched a **Special Liquidity Scheme** (SLS). The SLS allowed UK banks, for a fee, to borrow short-term UK Government Treasury bills from the Bank of England in exchange for posting mortgage-backed securities as collateral, i.e. it gave banks the opportunity to borrow highly liquid T-bills for up to three years.³⁸ The window during which banks could borrow from the Bank of England was originally only open for six months, but was then extended for an additional three months due to high demand from the banks and continuing low levels of interbank lending (and, unofficially, to help facilitate the Lloyds-HBOS merger). The SLS officially closed on 30 January 2012. All drawings under the scheme were repaid before the scheme closed.

In March 2009, the Bank of England commenced a programme of large-scale asset purchases (the light blue in Figure 4) funded through the creation of new central bank reserves. It adopted the term QE for this policy and it was introduced following the same logic as in Japan: the base rate had reached 0.5 per cent – the lowest level in the Bank of England’s history – and the economy was still contracting.

Between 2009 and September 2012, the Bank of England created £375 billion of central bank reserves (25 per cent of GDP) through four successive rounds of QE; £200 billion between March and November 2009; £75 billion between October 2011 and January 2012; £50 billion between February and May 2012; and £50 billion announced in July 2012.

In the next section we explain the purpose of QE and set out the impact that it should have, in theory, on the economy.

3. Understanding QE in theory

What is QE and how is it supposed to work? There is much misinformation and confusion surrounding this question and, before we examine the impact of QE in Section 4, we will first attempt to set out clearly the purpose and mechanism of QE and other central bank interventions that are intended to support the economy.

3.1 How QE works

In January 2009 the Bank of England, together with the Treasury, created a new vehicle for carrying out the QE programme of assets purchases – called the Asset Purchase Facility (APF). When the MPC takes a decision to conduct more QE, the Bank of England creates new electronic central bank reserves and lends them to the APF by simply adding these numbers to the APF's account. It is important to note that the Bank of England has made a loan, and that the intention is that at some point the loan will be repaid and these new reserves will be withdrawn from the economy. For this reason the phrase 'printing money' is very misleading as it implies the permanent creation of new interest-free money, not the temporary creation of money through making a loan at interest. In this sense, the Bank of England is no more printing money than RBS is when it extends credit to its customers.³⁹

The process is best understood through the use of accounting T-charts (Figure 5). The Bank of England makes a loan to the APF which uses this to purchase gilts (step 1) from the non-bank investment sector, such as from a pension fund (step 2). The pension fund's holdings of gilts are reduced, with a corresponding increase in its holdings of commercial bank deposits. This is a change in the composition of the assets in the pension fund, with no change to its liabilities (step 3). The pension fund's bank gains additional central bank reserves from the APF on the asset side of its balance sheet and a matching increase in deposits on the liability side as it credits the pension fund's bank account (step 4).

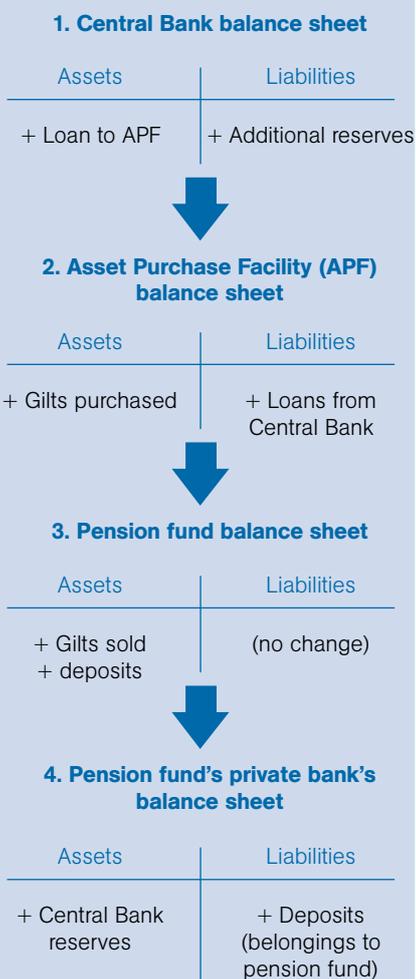
In summary, the new money (bank deposits) created through this process is now in the hands of the pension fund. QE as practised by the Bank of England creates new bank deposits for investors in the capital markets. But, as we shall see, these deposits will only translate into increased demand in the economy if they feed through to GDP-related transactions.

3.2 Who runs the Asset Purchase Facility?

The Bank of England Asset Purchase Facility Fund Limited (APF) is a subsidiary company wholly owned by the Bank of England. However, the Bank of England is indemnified by the Treasury against any losses by the APF (unlike assets held directly on the Bank of England's own balance sheet). This means that if bonds purchased by the APF are not repaid, or the APF sells assets for less than price it paid for them, the taxpayer rather than the Bank of England will be liable for the shortfall. In one sense then, one can view the assets in the APF as belonging to the Government.⁴⁰ This arrangement allows the Bank of England to not consolidate the APF into its own balance sheet. However, government accounting rules mean that the APF does not appear in the public accounts either. Effectively the APF is a giant off-balance-sheet vehicle, although the Bank of England does publish an annual report and accounts for the APF as well as other regular operational data.

The creation of the APF enables the Bank of England to keep a clear distinction between QE and more standard OMOs although essentially the same activity is taking place. The APF can purchase assets funded either by borrowing T-bills

Figure 5. Quantitative Easing balance sheets.



Source: Bank of England

from the Bank of England or by using central bank reserves created by the Bank of England under the QE programme.

Members of the independent MPC decide on the quantity of assets that will be purchased by the APF using Central Bank reserves. However, the APF itself is staffed by Directors of the Bank of England and it is *they*, rather than the MPC, who determine *what type* of assets will be bought by the APF.⁴¹ Specifically, the Bank's Executive Directors for Markets and Monetary Analysis and Statistics make recommendations on the assets to be purchased to the Governor of the Bank, who decides after consulting with the two Deputy Governors.⁴²

Whilst the general public probably associates QE with the purchase of government bonds, initially it was intended that *corporate* bonds be purchased by the APF in exchange for Treasury bills. Only in February of 2009 was it agreed that government bonds could also be purchased by the Bank of England, just prior to the commencement of the large-scale purchase of assets funded by new central bank reserves. The initial perceived importance of buying private sector assets at the time is clear in Mervyn King's letter to the Chancellor:

In order to facilitate an expansion of the monetary base through the Asset Purchase Facility, the MPC proposes that gilt-edged securities be added to the list of eligible assets set out in your letter of 29 January. I suggest that the MPC be authorised to use the facility to purchase eligible assets financed by central bank money up to a maximum of £150 billion but that, in line with the current arrangements and in recognition of the importance of supporting the flow of corporate credit, up to £50 billion of that should be used to purchase private sector assets. Within those limits, the speed and scale of purchases would be for the Committee to decide.

Mervyn King, Governor of the Bank of England⁴³

Since this announcement however, the APF that has taken the decision to purchase almost exclusively gilts, rather than any other kind of asset, such as corporate bonds. We explain the significance of this decision next.

3.3 Theoretical impact of QE

Figure 6 shows how QE could or should affect the economy. It is a complicated process. The blue boxes (and corresponding arrows) are intermediate steps where the outcome is indeterminate. The Bank of England is ultimately interested in achieving the outcomes in the green boxes – they all involve the creation of new GDP transactions and hence GDP growth. However, such outcomes are uncertain and it would appear just as likely, if not more so, that the red outcomes have occurred, given the current economic conditions. There are two main channels through which QE is thought to impact on the economy; the bank lending channel and the portfolio rebalancing effect.

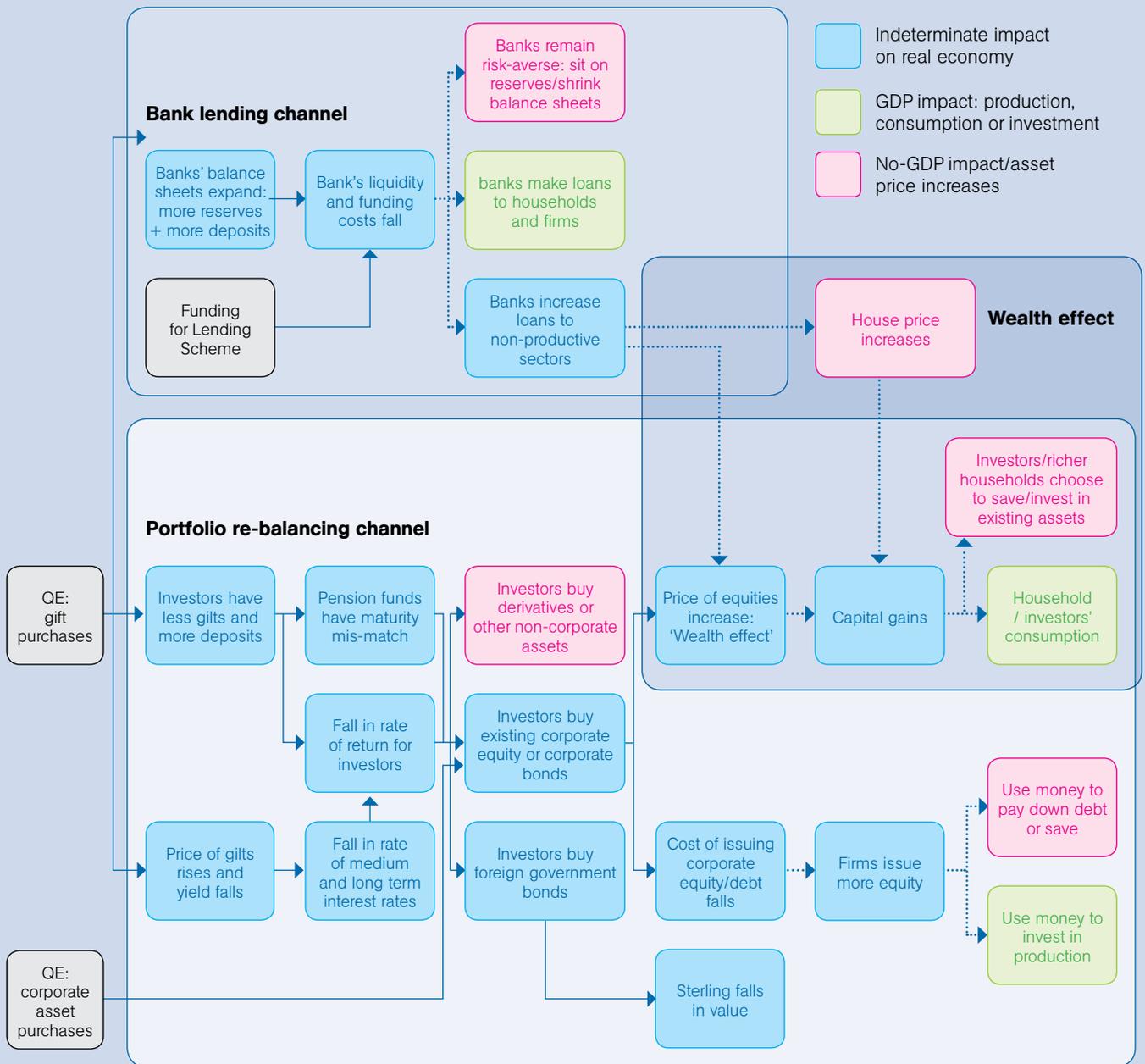
3.3.1 The portfolio rebalancing effect

The Bank of England has placed the most emphasis on the impact of QE on changes in investors' portfolios. As shown in Figure 6, the process is somewhat drawn out. Purchase of gilts from financial investors by the APF creates new deposits for those investors. The increase in central bank reserves (narrow money) has led to an equal increase in bank deposits (broad money).⁴⁴ The important question for assessing the macroeconomic impact is what they will do with these deposits. The theory is that this 'shock' to their portfolio will lead to investors rebalancing their holdings by seeking out similar kinds of financial assets (Box 2).^{45,46} They may want to do this for a number of reasons.

First, government bonds, particularly longer dated gilts (e.g. 10 or 25 years) will have a higher rate of return than deposits. Secondly, certain kinds of investors, in particular pension funds, will want to hold assets of longer maturity than deposits as they have correspondingly long-dated liabilities.⁴⁷

The hope is that investors will switch instead to corporate assets – bonds or equities (shares) – that will in turn support businesses operating in the real economy. However, investors have other options, as shown in the red boxes.

Figure 6. The effect of QE on the UK economy.



- They may choose to switch into foreign government bonds instead.⁴⁸
- They may simply buy existing corporate securities from other investors rather than newly issued securities from companies. Only in the latter case, known as the primary market, will companies receive more funds and this is only a fraction of the overall turnover of capital markets. We examine the impact on corporate investment later.
- They may choose to invest in derivatives based on commodities such as oil or food, which will have the effect of inflating the prices of these assets.⁴⁹
- They may in the end choose to sit on their cash, in which case the newly created money will have made no contribution to GDP whatsoever.

Let us assume that investors choose to purchase newly issued corporate assets. This will bring down the cost of issuing new equity or bonds for firms and mean it is likely they will be able to access more finance. However, it is then up to the firms to decide what to spend this new money on. It will only contribute to GDP transactions

Box 2: Government versus corporate bonds

Government bonds are the safest and most liquid form of financial asset, with the exception of cash or central bank reserves. This is because governments very rarely (in the UK's case, never) default on their debts, in contrast for example to businesses (corporate bonds). The rate on government debt is thus often known as the 'risk-free' rate of return. The desired return for investing in corporate bonds is the addition of the risk-free rate and the risk premium. Of course, different people have different risk premia, depending on their own tolerance for risk and the companies they are buying into. In general, however, as the risk-free rate goes up, the total return required for investing in corporate bonds also increases and vice versa. At times of economic instability and declining corporate profitability, the risk premia rises and the risk-free rate falls as investors turn to safer government debt. If corporate bond issuance to fund investment becomes more difficult, this will be bad news for the economy, especially if, as at the present time, banks and households are deleveraging rather than offering and taking out new credit.

QE involves the Bank of England trading one type of relatively safe IOU – gilts – for another: Bank of England reserves which pays a lower rate of interest. The Bank of England targeted its purchases at the non-bank private sector – for example, pension funds and insurance companies. It did this by buying gilts of longer maturity (3, 5, 10, or 25 years) than the types banks would normally hold.⁵⁰ As with any market, the purchases have the effect of increasing the demand for gilts relative to supply, thus pushing up their price. At the same time, this has the effect of pushing down the return that holders of such assets receive, known as the yield-to-maturity. This is because government bonds are fixed-income assets – they pay out the same total amount in every period, known as the coupon. So the price and the interest rate on gilts are inversely linked. As the demand for them and their price increases, the rate of return received on them decreases.

and growth if it is invested in new production. In the current environment, it appears larger firms are happier just sitting on cash. The Office of National Statistics recently estimated that the UK companies were sitting on £750 billion in cash, 50 per cent of GDP.⁵¹ Or companies might use the funds to pay down existing bank loans. This will have the paradoxical effect of *reducing* the money supply.

3.3.2 The wealth effect

An additional potential consequence of portfolio rebalancing is known as the 'wealth effect'. As investors buy more equities this should push up their price, meaning holders of these assets will feel wealthier. They may choose to invest this additional wealth in consumption which would contribute to GDP growth (although it may not help the trade deficit if it involves buying goods that are imported). However, again it is not clear that asset holders will do this. They might just buy other kinds of existing assets or save the money. Academic research shows that wealthier individuals tend to be less likely to spend any additional income on consumption.⁵² Furthermore the impact on consumption for any consumer will depend on whether they feel it is a long-term or merely a short-term improvement in their economic position, and how the current increase in wealth affects their confidence about their future financial prospects. It is also possible that banks, which also hold assets, will also feel a 'wealth effect' because the value of their capital will rise. They may then pass on this effect via charging lower rates of interest.⁵³

3.3.3 The bank lending channel

As commercial banks hold significantly higher levels of central bank reserves as a result of QE, it is possible that additional liquidity and reduced cost of funding will enable banks to increase their lending to the real economy, creating credit for new GDP transactions. David Miles, a member of the MPC, in a speech in October 2011, stated that:

When the Bank of England purchases gilts owned by non-banks, all else equal, banks' deposits rise as do reserve balances at the central bank. To the extent that a bank's reserve holdings would then come to exceed its demand for liquidity, it is likely to be more willing to expand lending. Or, if a bank had already lost some of its other funding, it might be able to avoid a contraction in its lending or a sale of less liquid assets.⁵⁴

The first phase of QE in 2009, when £200 billion was injected in the space of just six months, may have supported bank lending, or at least prevented a further fall in credit creation, although the Bank of England has played down this effect in its analysis.⁵⁵ A number of other schemes aimed more directly at improving banks' balance sheets were also underway at the time, including the Government guaranteeing bonds issued by the banks (the credit guarantee scheme⁵⁶), the SLS, and the partial nationalisations of RBS and Lloyds via massive tax-payer-funded re-capitalisations. These interventions would appear to support the banking system more directly and hence prevent further contractions in lending.

Either way, the impact of expansion of central bank reserves on credit creation, as mentioned in Box 1, is indirect and dependent entirely on banks' confidence. Their overall effect is likely to be limited, simply because banks were already holding excess reserves before the policy was adopted. It is not obvious that a significant increase in the amount of excess reserves will have any impact on banks' lending decisions. This is especially true since, as discussed earlier, central bank reserves cannot in total be reduced by banks 'lending the money' – banks create new credit when they lend, for which they do not need reserves, and the reserves at the central bank cannot in aggregate be reduced by banks via any action of their own. Thus, in aggregate, banks must hold these large reserve balances, and they currently receive 0.5 per cent interest on them.⁵⁷

3.4 Funding for Lending

The 'portfolio' effect of QE described above might help larger businesses who can issue equity and bonds but it does not help households or smaller businesses that are not large enough to access the capital markets. They are dependent, for larger loans at least, almost entirely on the banking sector.

Realising that QE did not address the problem of bank credit-creation, the Bank of England introduced a new policy in July 2012 – the Funding for Lending (FLS) scheme. This scheme more directly targets the banks and their lending, rather than just creating new deposits in the financial sector. Banks create money by buying assets or making loans, but they have to fund these loans once the borrower spends the money. FLS lowers banks' *cost of funding* if they commit to particular kinds of bank lending – that is lending to households and businesses.⁵⁸

To understand FLS, it's necessary to understand what is meant by bank 'funding'. When banks make loans, they also create deposits, as explained in Section 1. But deposits are short-term liabilities which can be withdrawn without notice – or 'on sight'. In contrast, banks' loans – their assets – are typically longer term (e.g. a mortgage might be 25 years). So banks typically have a maturity 'mis-match'. They fund long-term assets (loans) with short-term liabilities (deposits).

This is not a problem so long as there is not a sudden rush to withdraw large quantities of electronic deposits from any particular bank or withdraw deposits in the form of cash (in which case these liabilities leaved the banking system entirely). However, at the present time banks are concerned about maturity mis-match because there remain doubts about banks' solvency following the financial crisis. This means banks are seeking to improve the maturity match between their assets and liabilities. So if a bank issues many 5-year business loans, they may want the assurance that a good proportion of their liabilities are 'term debt' (e.g. fixed-rate bonds that cannot be withdrawn for one or two years) rather than all being deposits.

Banks access such term debt from the capital markets and since the financial crisis, the costs of such term debt have risen substantially as demand for longer term liabilities has gone up. This high cost of funding, also driven by problems in the Eurozone, makes banks reluctant to make more loans. Funding for Lending, together perhaps with the European Central Bank's announcement that it would buy government bonds in whatever quantities were required to lower long-term yields ('Outright Monetary Transactions') has helped to bring the costs of bank funding down.

The FLS facilities are made for four years, i.e. once drawn down, the banks do not have to repay for four years. This means the banks would have no maturity mis-match risk on loans up to four years (which should cover the majority of SME loans), and would probably be happy to leverage up on that by funding additional loans from short-dated wholesale money. And obviously the funds should work out a lot cheaper for the commercial bank than going to the capital markets.

In March, the Government announced changes to the FLS scheme to make it more orientated towards lending to SMEs rather than just for secured lending. The amount, and cost, of the cheap money offered through the FLS is linked to the degree to which banks expand their balance sheets by lending to the UK's businesses and households. Under the changes, for every £1 that participants in the FLS expand lending to SMEs this year, the Bank of England will offer up to £10 of additional funds, compared with £1 for loans to households. For SME lending granted in 2014, the Bank of England will offer £5.

The scheme will now remain open for another year until the beginning of 2015. In the March announcement, the Treasury also stated that alternative providers of finance, such as financial leasing and factoring corporations, could be included in the definition of FLS lending for the first time.

FLS is in line with the disaggregated Quantity Theory Credit, as it explicitly aims to stimulate credit creation for GDP transactions rather than simply increasing reserves in the banking system.⁵⁹ If borrowers use the funds for consumption (e.g. home improvement) then this will boost GDP. But if banks increase their mortgage lending the outcome in terms of nominal GDP growth is somewhat ambiguous. Mortgage lending may just increase house prices. If this happens, it is possible that there may be some wealth effect in the short term, encouraging more consumption, but in the long-term the higher monthly mortgage repayments suffered by new entrants to the housing market paying inflated house prices might reduce consumer demand.

Only lending to businesses can be more reliably viewed as resulting in an increase in GDP transactions, without the negative effects of asset inflation or consumer price inflation. It is for this reason perhaps that the Bank of England chose in March 2013 to alter the terms of FLS to more specifically incentivize lending to SMEs over mortgage financing.⁶⁰

To summarise, all of these channels are indirect and all of them attempt to stimulate the real economy by acting through the financial sector. Thus bond purchase operations by central banks, including what is styled as QE, do not create new *credit* or even *deposits* (purchasing power) directly in the hands of households, businesses, or the Government. New deposits are created in the non-bank financial (or investment) sector only.

4. Assessing QE and Funding for Lending in practice

Studies by the Bank of England suggest that QE contributed around 1.5 per cent to GDP growth at its peak and boosted annual inflation by around 1.25 per cent.⁶¹ The transmission mechanism from QE to these figures is very complex however. There are both attribution and counterfactual issues.

Attribution issues arise when it is not possible to isolate the impact of one among many different causal factors. A number of other interventions occurred at the same time as QE: a historically unparalleled drop in interest rates, a massive increase in government spending as well as the liquidity and recapitalisation policies mentioned in Section 3. Other countries – the USA, Japan, and the Eurozone in particular – were also undertaking QE-type policies meaning there were likely to be spill-over effects, in particular given the internationalised nature of the UK economy.

The counterfactual problem is that we can never know what would have happened if we had not carried out QE, so we can never truly know its impact. We can only observe how the economy has changed. QE was initiated during extraordinary economic times – with output and bank lending and confidence in stock-markets collapsing in a fashion not seen since the Great Depression. Finally, whilst analysis of changes in financial markets (asset prices, risk spreads) is fairly amenable to direct observation, this is less true for broader macroeconomic impacts where significant time lags may be present.

It may be for the latter reason that the vast majority of empirical studies of QE, both in the UK and internationally, have concentrated on the impact of QE on changes in financial markets. Such studies have been criticised for missing the point; since the ultimate objective of QE was to boost nominal GDP and inflation, measuring such intermediate variables appears not very useful.^{62,63} In this section we review existing empirical studies, trying where possible to relate them to effects on the real economy, reviewing both the portfolio re-balancing and bank lending channels, including FLS, described in Section 3. We then examine the impact of QE on government debt and the distributional affects. Finally, we lay out our own analysis of potential drivers of growth in the UK economy from 1990 to 2013, concluding that bank credit creation for the real economy is the most important determinant of GDP growth.

4.1. The portfolio re-balancing channel

4.1.1 Effect on gilt yields

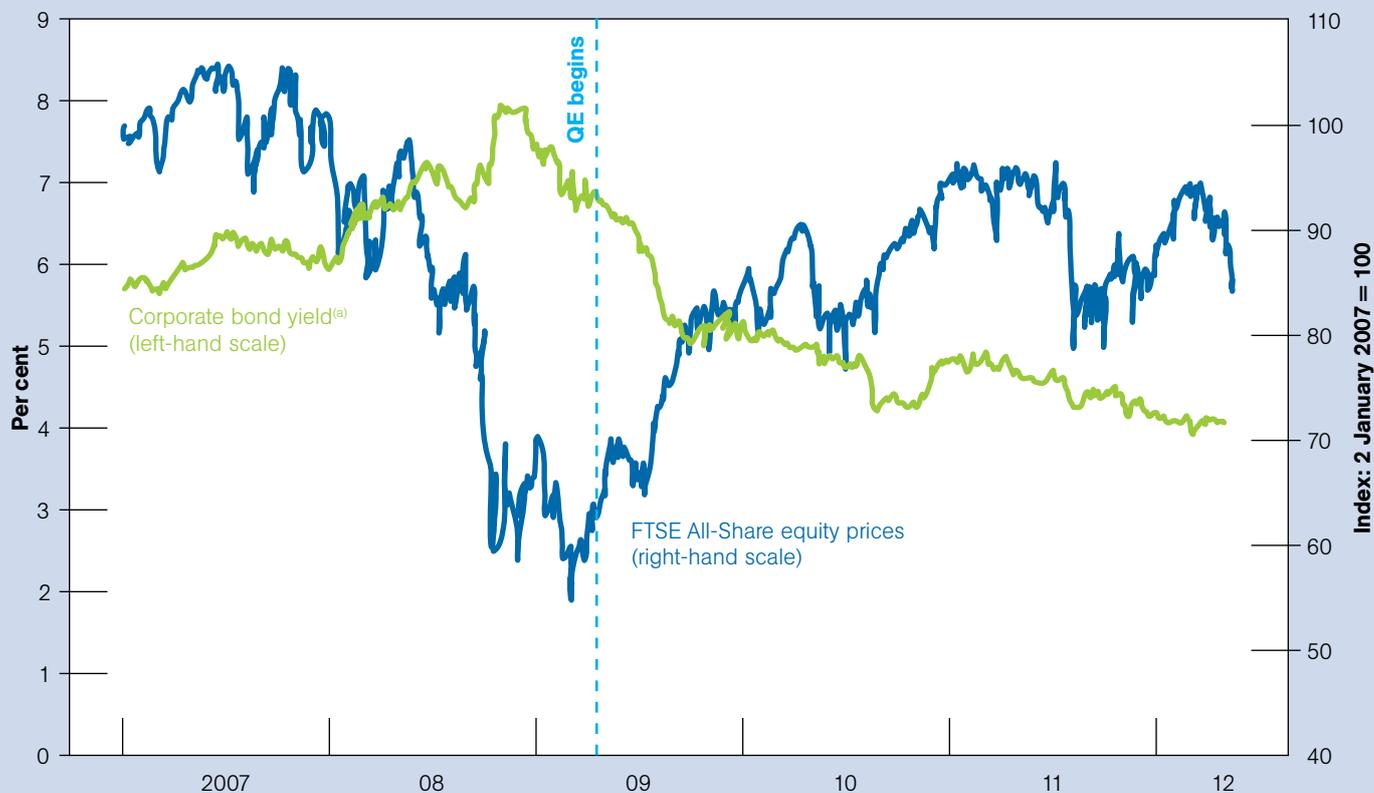
QE does appear to have contributed to a lowering of medium- and long-term government bond rates – the first phase of the portfolio rebalancing objectives outlined in Section 3.^{64,65} The Bank of England estimates that QE phase 1 reduced long-term gilt yields by around 100 basis points.⁶⁶ However, econometric studies suggest these effects may only have been temporary and had most of their impact in the first round of QE in 2008/2009 at the height of the crisis.⁶⁷ For later actions, it is particularly difficult to disentangle this effect from international dynamics that may affect foreign investors' desire for UK bonds. Most obviously, the problems in the Eurozone have undoubtedly made gilts unusually attractive relative to Eurozone sovereign debt. Subsequent QE interventions might also appear to have had less of an impact because markets had already 'priced in' their probable occurrence.^{68,69} This 'signalling channel' – whereby the Bank of England makes its intention to buy up sovereign debt in large quantities – is inevitably likely to be stronger the first time the intervention was practised.

4.1.2 Effect on exchange rates

Pushing down the availability and yield on UK Government bonds, and raising their price may lead investors to instead purchase foreign government bonds in order to maintain their portfolio risk and maturity profile, as described earlier. To do so they would need to exchange their sterling for foreign currency, which may put downward pressure on the exchange rate. The overall impact on sterling will depend on the actions of other players, such as central banks, however. If other central banks carry out similar purchases of their own sovereign debt, this may cancel out the exchange rate devaluation – the ‘beggar-my-neighbour’ (or ‘currency war’) effect.

Whilst sterling has depreciated 20 per cent since the crisis, much of this can be attributed to the sharp initial reduction in interest rates. Estimates by the Bank of England and others suggest that the direct effect of QE interventions on sterling is nearer 4 per cent.⁷⁰ This could be seen to have made UK exports more competitive and foreign imports less competitive, increasing demand for domestic goods of services. Both these effects will boost GDP. This channel could be quite weak, however, for a number of reasons. First, imports may not fall, particularly if there are no domestic substitutes, and so the economy faces higher prices – the so-called ‘cost push’ inflation. Secondly, even with more competitive export prices, SMEs in particular may not be able to increase production without bank credit. Thirdly, the UK commercial sector is dominated by larger firms which invest abroad rather than export overseas.⁷¹ Finally, as noted earlier, even despite the fall in interest rates and sterling, foreign investors may have preferred sterling assets as the ‘best of a bad bunch’ during the Eurozone crisis. Specifically, demand for gilts might have been increased by the presence of a massive buyer in the gilt market (the APF) guaranteeing to support the price of gilts. This increased demand for sterling would have mitigated the depreciation effect of lower interest rates.

Figure 7. Equity prices and corporate bond yields.



(a) Non-financial companies (excluding utility companies) sterling investment-grade corporate bond yield

Source: Bank of England

Figure 8. External financing of UK companies 2003–2012.



Source: Bank of England⁷²

4.1.3 Effect on price and issuance of corporate assets

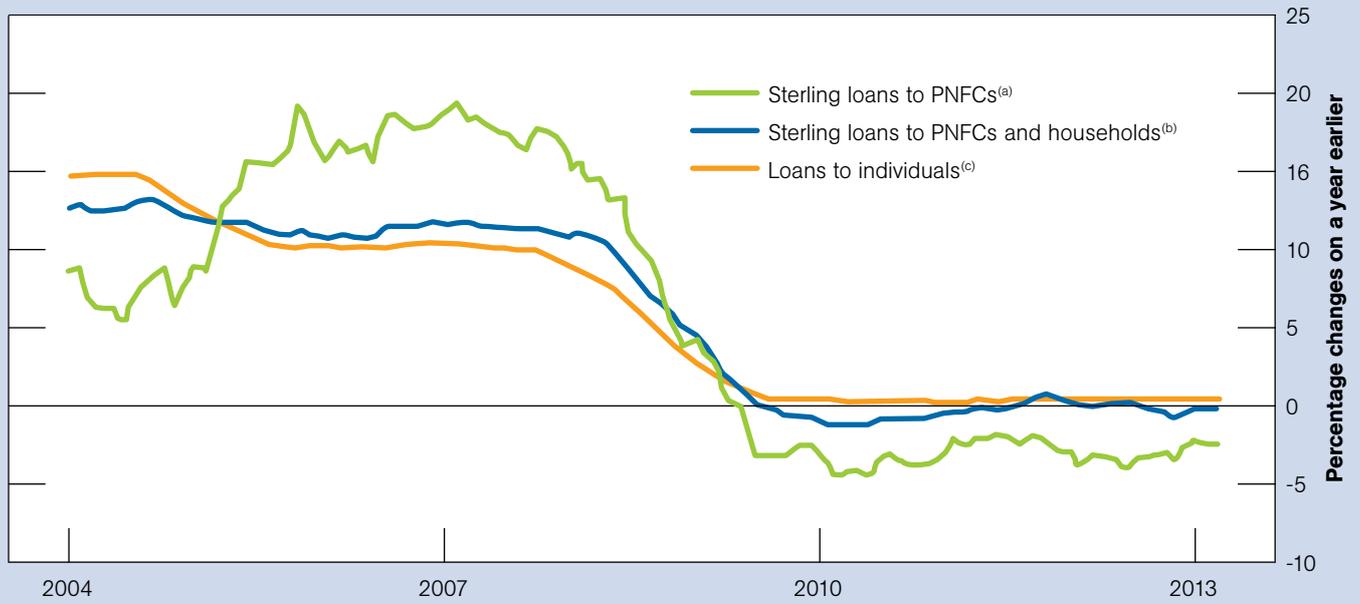
QE purchases of gilts appear to have helped boost equity prices which have recovered to pre-crisis levels (Figure 7).⁷³ Bank of England research estimates that UK QE1 boosted equity prices by around 20 per cent.⁷⁴ Again, however, it is difficult to disentangle international effects. In particular, the FTSE 100 is closely correlated with the US Standard and Poor Index (S&P 500); it tracked this very closely during the first phase of QE, modestly outperforming it, and outperformed it more significantly in the second phase of QE by 2012.⁷⁵

However, the new issuance of equity and bonds is a more important variable for the real economy than the price of assets. This is shown in Figure 8. Whilst there was a significant increase in equity issuance in 2009 (the blue bar), this was driven primarily by recapitalisation of the banking sector, with Lloyds alone launching the world's biggest rights issue of £13.5 billion. Equity issuance has since gone negative in aggregate, indicating that the UK stock market has reverted to being a net recipient, rather than provider, of capital from the corporate sector and only bond issuance remained positive in 2012 and 2013. So the issuance of corporate assets has not compensated for the collapse in bank lending in absolute terms since the crisis (shown in orange), and even if the figure had been equal, such a shift from bank credit to 'direct finance' would still have a contractionary net effect on economic activity.⁷⁶ Indeed, to the extent that companies are refinancing bank loans with corporate bond issuance, this will be further contributing to the contraction in the broad money supply.

4.2 The bank lending channel and Funding for Lending

Initial large-scale QE purchases helped to improve bank liquidity. Looking at the bare figures, reserves held by banks at the Bank of England have increased from £46 billion just before the start of QE1 to £290 billion at present. The inter-bank rate did fall significantly during the first phase of QE, suggesting the flood of liquidity restored the banks' confidence in each other. In fact, UK banks' holding of sterling liquid assets (cash plus reserves plus short-term government debt) are now at the highest since the late 1970s.⁷⁷ However the problem is that whilst this increase in liquidity may have prevented a more severe contraction in lending, it has not stopped the contraction completely.

Figure 9. Lending to the real economy, 2003–2012.



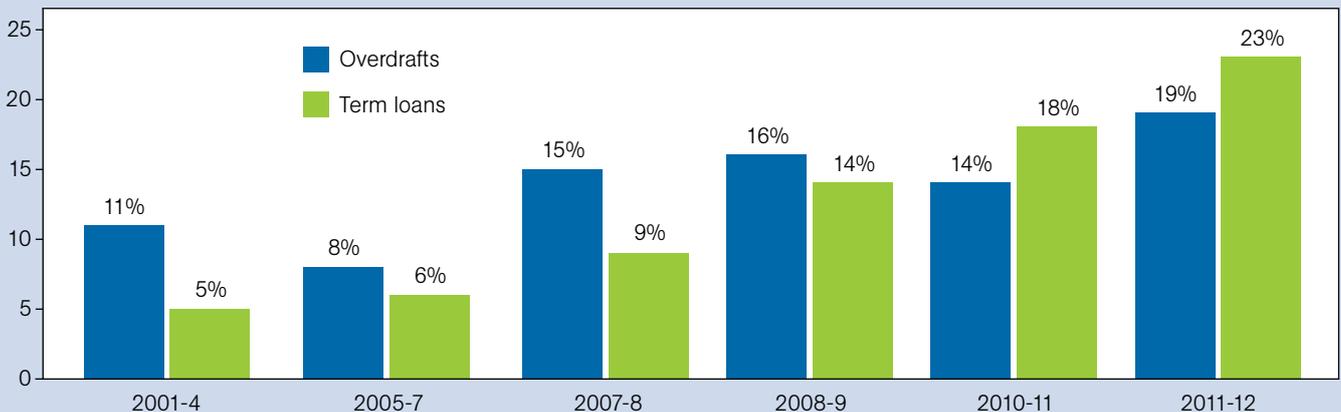
- (a) M4 loans excluding the effects of securitisations and loan transfers.
- (b) Sterling loans by UK-resident monetary financial institutions (MFIs) and related specialist mortgage lenders excluding the effects of securitisations and loan transfers. Funding for Lending Scheme measure. Non seasonally adjusted
- (c) Sterling loans by UK-resident MFIs and other lenders. Excludes student loans.

Source: Bank of England⁷⁸

Figure 9 shows the huge fall in the rate of growth of lending that occurred during the financial crisis, from the beginning of 2008 to the autumn of 2009, split by lending to households and individuals and to businesses (public non-financial corporations (PNFCs)). The first phase of QE involved the purchase of £200 billion of corporate and government bonds between March and November of 2009 and, along with the other schemes to recapitalise the banks, would appear to have played a role in stabilising lending to businesses and households. However, Figure 9 shows, lending has since flat-lined in the case of lending to households and continues to contract in the case of business lending.

Particular attention has been paid to banks failing to lend to SMEs. Despite the many schemes introduced by the Government and the Bank of England to boost lending to SMEs (the credit guarantee scheme, Project Merlin, and now FLS) there is little evidence of a recovery in lending. A recent comprehensive report commissioned by the Department of Business painted a bleak picture of rising rejection rates for both short- and longer-term financing for SMEs (Figure 10).⁷⁹

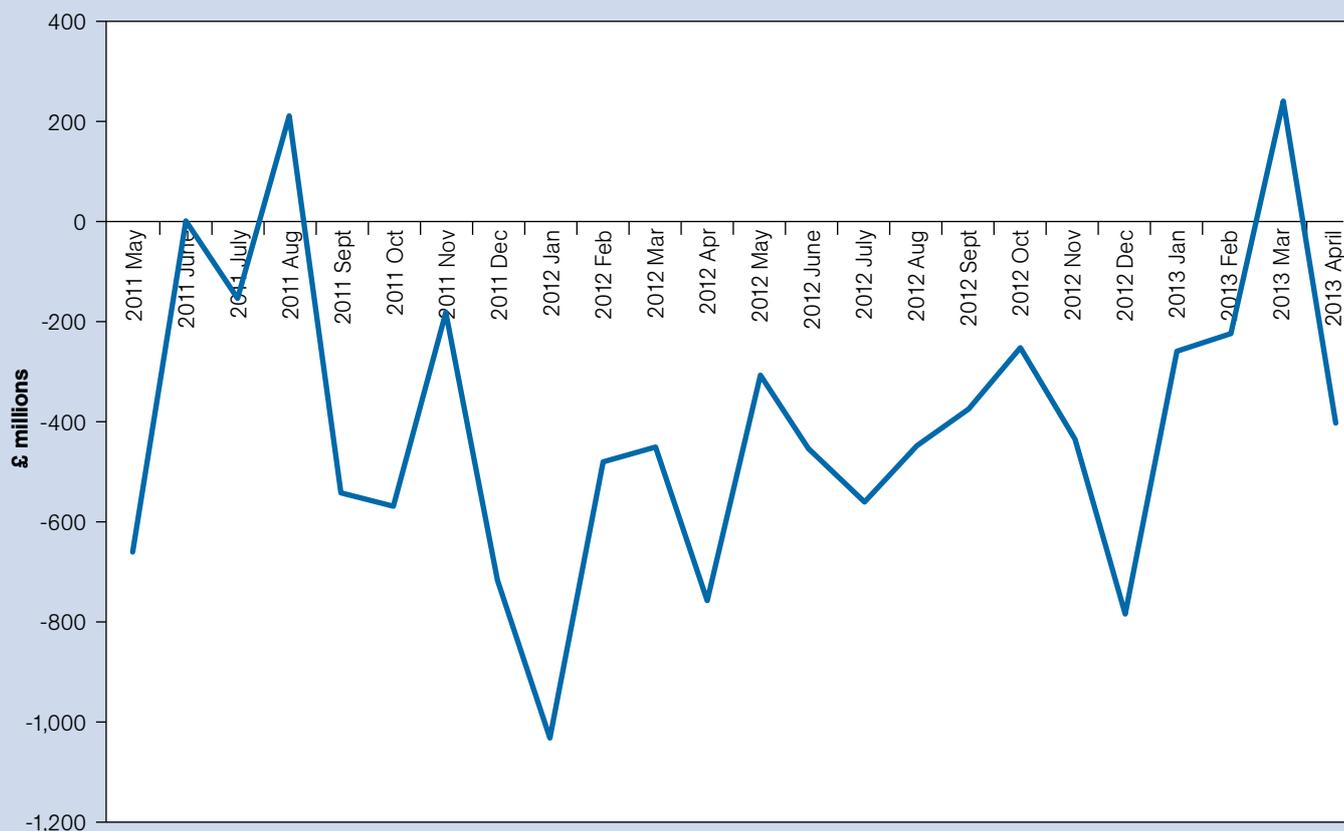
Figure 10. SME bank debt rejection rates (including renewals) 2001/2012.



Includes data on SMEs with bank debt

Source: BIS/NIESR⁸⁰

Figure 11. Net lending to SMEs (excluding overdrafts) since introduction of FLS, £m, not seasonally adjusted.



Source: Bank of England, table A8.1, code Z8Y8

Neither has the FLS so far created the pick-up in small business lending the Treasury and the Bank of England were hoping for (Figure 11).

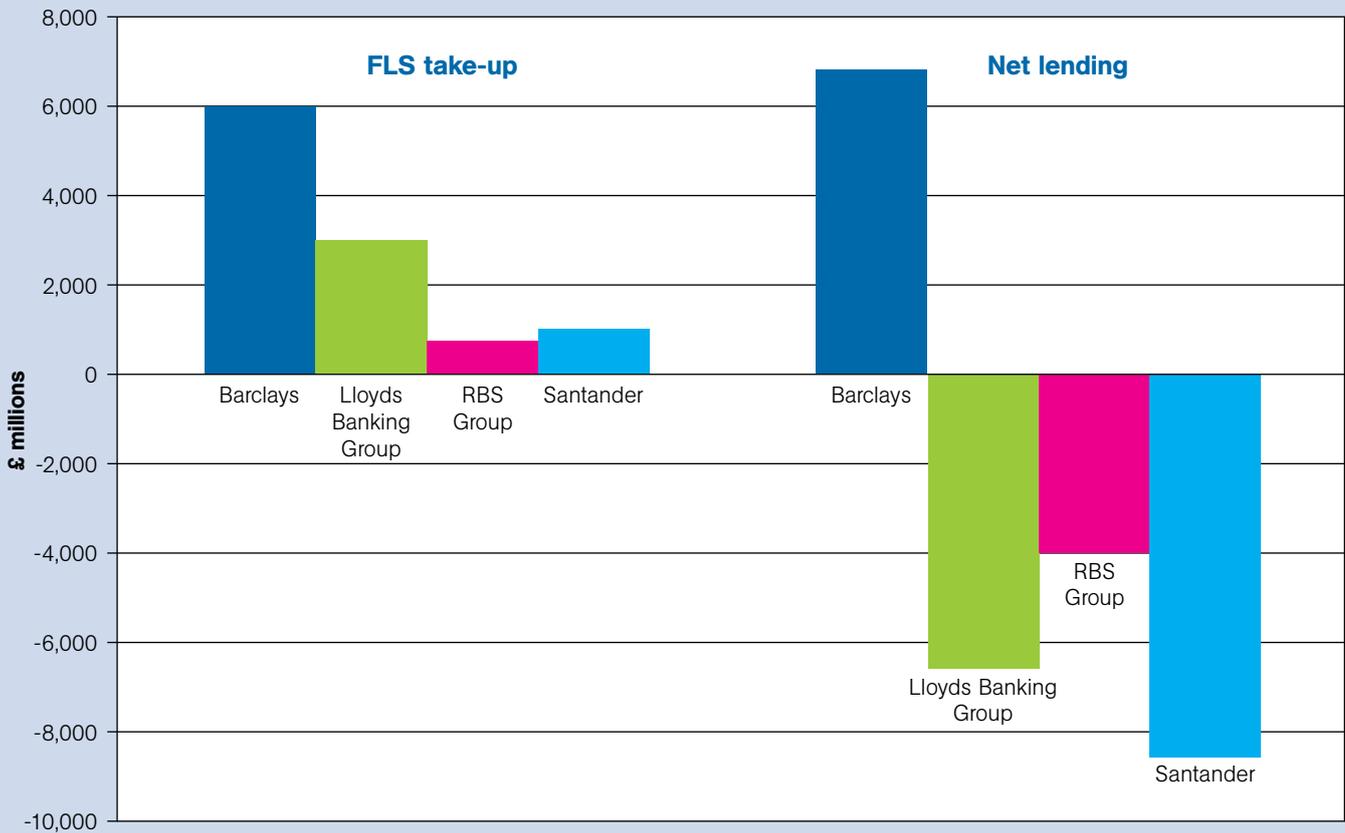
There are a variety of explanations as to why banks have not used the scheme. The most obvious is that three of the UK's major SME lenders, the partially nationalised RBS, Lloyds, and Santander, appear to be actively shrinking their loan books. Remarkably, in the first quarter of 2013, none of the four big banks (Barclays, Lloyds TSB, RBS, and Santander) used the FLS scheme at all. Meanwhile, whilst Barclays expanded its net lending by £1.2 billion (less than each of the previous three quarters of the FLS), the other three large banks further contracted their net lending: Lloyds by almost £1 billion, RBS by £1.6 billion, and Santander by £2.3 billion.

Of the Big 5 lenders, only Barclays and Nationwide increased net lending since the introduction of the FLS.

In addition, the banking sector as a whole remains concerned about capital ratios. In March, the Bank of England decided to force the banks to raise another £25 billion of capital in the hope of rectifying this problem. We examine the possibility of splitting the nationalised banks into good and bad banks in order to properly clean up their balance sheets in more detail in Section 5.

Bankers and the central bank often suggest that a final problem has been a lack of demand for loans from the SME sector (partially because of lack of success in the past). Survey evidence suggests that the demand for new borrowing has been very weak with Bank of England Credit Conditions Survey, Q1, reporting a 28 per cent fall in demand for loans from small businesses, and around 8 per cent fall from medium businesses.⁸¹ However, such surveys tend not to cover the largest group of firms, namely micro-scale firms. The smaller the firm, the larger the problem of credit rationing tends to be, as scale is perceived to be linked to risk. The credit supplier finds it increasingly uneconomical, the smaller the size of the borrower – a 'diseconomy of scale' for the economy that is exacerbated by the increased concentration and size of the lenders in the UK.⁸²

Figure 12. Commercial bank FLS take-up and cumulative net lending, July-December 2012.



Source: Bank of England⁸³

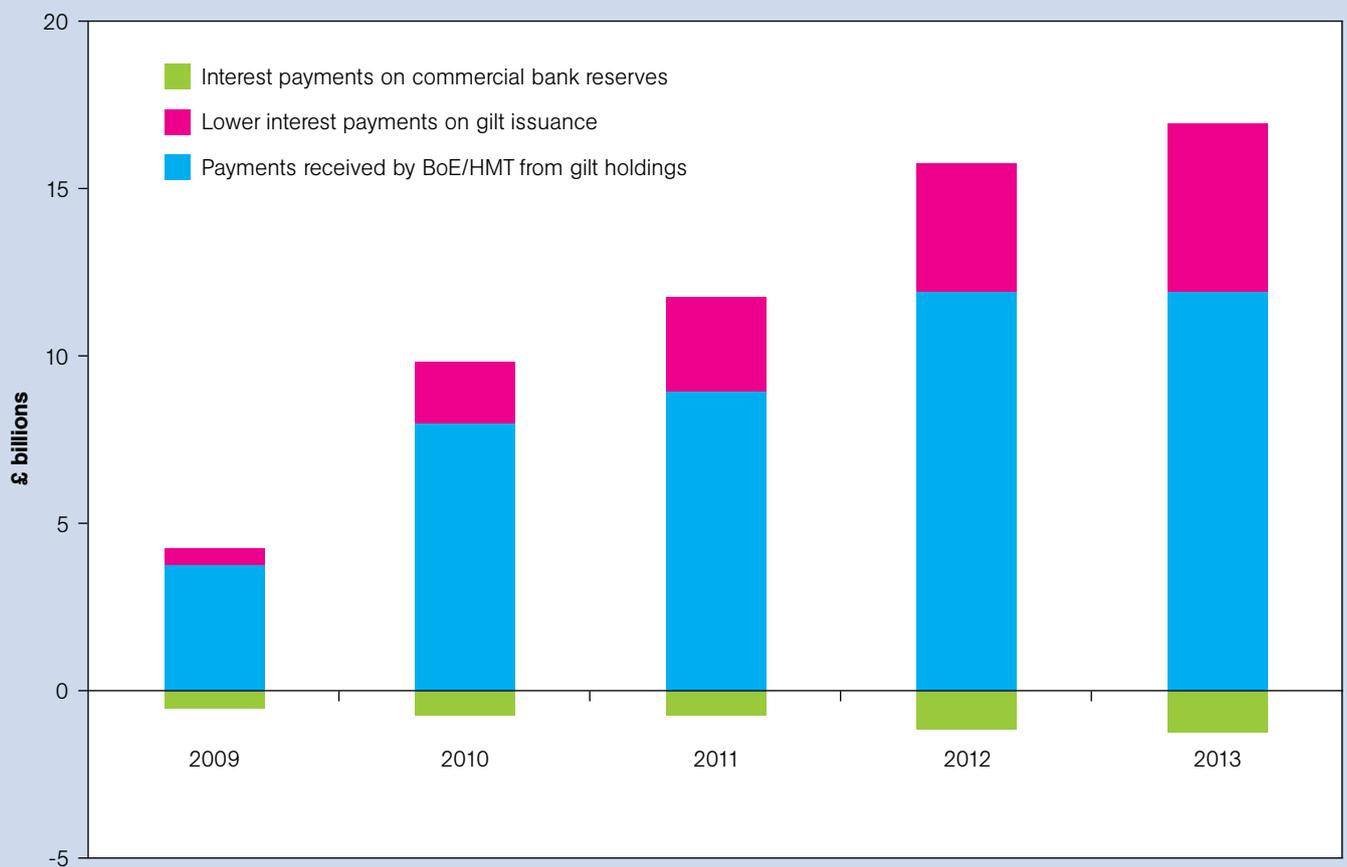
4.3 Impact on government debt

There is fairly widespread agreement that QE has bought down the interest rates on government debt (gilts). Even if this did not stimulate purchases of corporate assets, it can still be seen to have had a beneficial macroeconomic effect for the UK in terms of reducing interest payments that might otherwise have been made to overseas investors in government debt. Calculations by Goodhart and Ashworth (Figure 13), suggest the potential savings to the Government that can be attributed to QE are around £55 billion in total, taking into account payments made by the Bank of England to commercial banks for holding reserves. The bulk of this is as a result of coupon payments received by the APF on the purchases of government debt made with central bank loans. Any doubt over whether this would be claimed by the Treasury and hence count towards reducing the UK deficit were dispelled in November 2012 when George Osborne and Mervyn King decided to transfer the profits from the APF to the Treasury over time (of which more in Section 6).⁸⁴

There is also a wider question as to whether gilt purchases by the APF should actually be counted as a reduction in public debt, since the Bank of England (and hence the APF) that now owns the gilts is itself owned by the Government. As some commentators have pointed out,⁸⁵ the UK net public-debt-to-GDP ratio would be reduced by about a third if the QE purchases were excluded – for March 2013, the reduction would be £1.186 trillion (64 per cent of GDP) to £811 billion (43 per cent of GDP).⁸⁶ However, it is international convention to consider the central bank – which in most countries is legally independent from the Government concerning its policies – not to be included in the public sector.

Who holds government debt is also an important economic factor. As we can see from Figure 14, the post-crisis period saw a huge expansion in the issuance of government debt, mainly to cover the cost of bailing out the financial sector and the resulting recession. Between October 2008 and September 2012 the net issuance of gilts was £787 billion. Whilst around half of this debt was purchased by the APF, it is interesting to note that 26 per cent of

Figure 13. Total interest savings from QE to the Government.



Source: Goodhart & Ashworth, 2012 ⁸⁷

it was bought by foreign investors. Although this foreign demand has no doubt been beneficial in helping to bring down the interest the Government pays on its borrowings, there are also downsides to having a large proportion of government debt held outside the UK.

First, the interest payments on this debt are less likely to find their way back into the UK economy than if they were held by British investors. And secondly, the UK is more vulnerable to fickle international investor sentiment. If, for example, the UK suffers an economic shock of some kind, foreign gilt holders may be more likely to sell gilts as prices begin to fall than domestic holders. These latter – typically insurance companies and pension funds – are likely to be holding such assets to match long-term liabilities rather than for speculative reasons. They are thus likely to be reluctant to sell them even if their price falls.

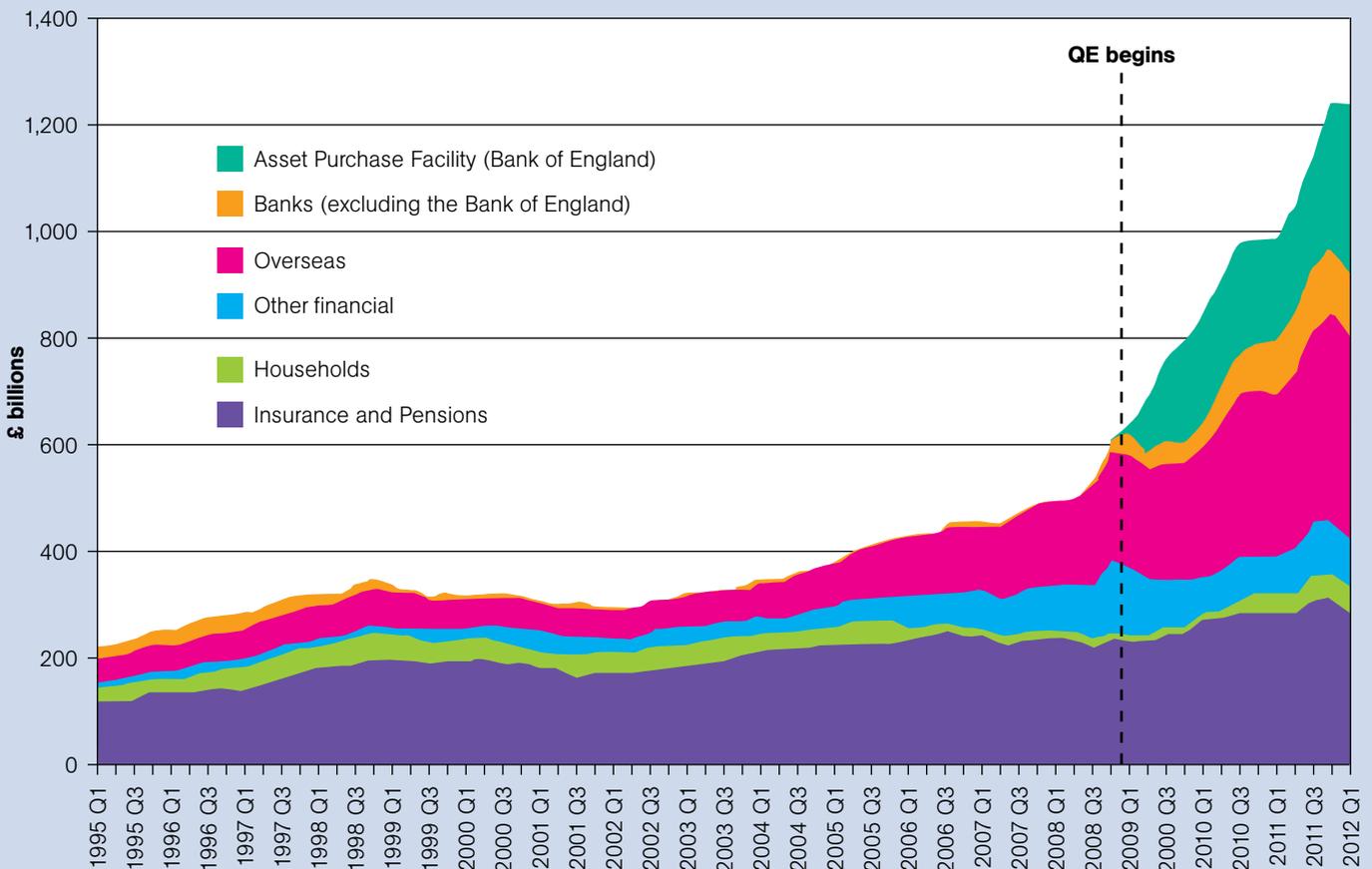
It is sometimes suggested that QE ‘subsidised the banking sector’. This may be true in the broad sense that it has supported financial market activity and provided both liquidity and cheaper funding to the banking sector, as well as contributed to rising asset prices. In the narrow sense of making capital gains on holdings of gilts, such gains exist but their size is limited, as banks held only 4 per cent of the total stock of gilts prior to QE (Figure 14).

4.4 Distributional impacts of QE

QE has important distributional effects. It supports asset prices, including equities (shares) and house prices and thus helps people who hold such assets – mainly richer and older parts of the population. Keeping interest rates very low also hurts savers and makes pensions more expensive. And keeping inflation above real wages hurts workers. So QE should not be seen as a ‘neutral’ intervention by the Bank of England.

The Bank of England, in testimony to the Treasury Select Committee, calculated that the value of shares and bonds had risen by 26 per cent – or £600 billion

Figure 14. UK Government bond holdings by sector.



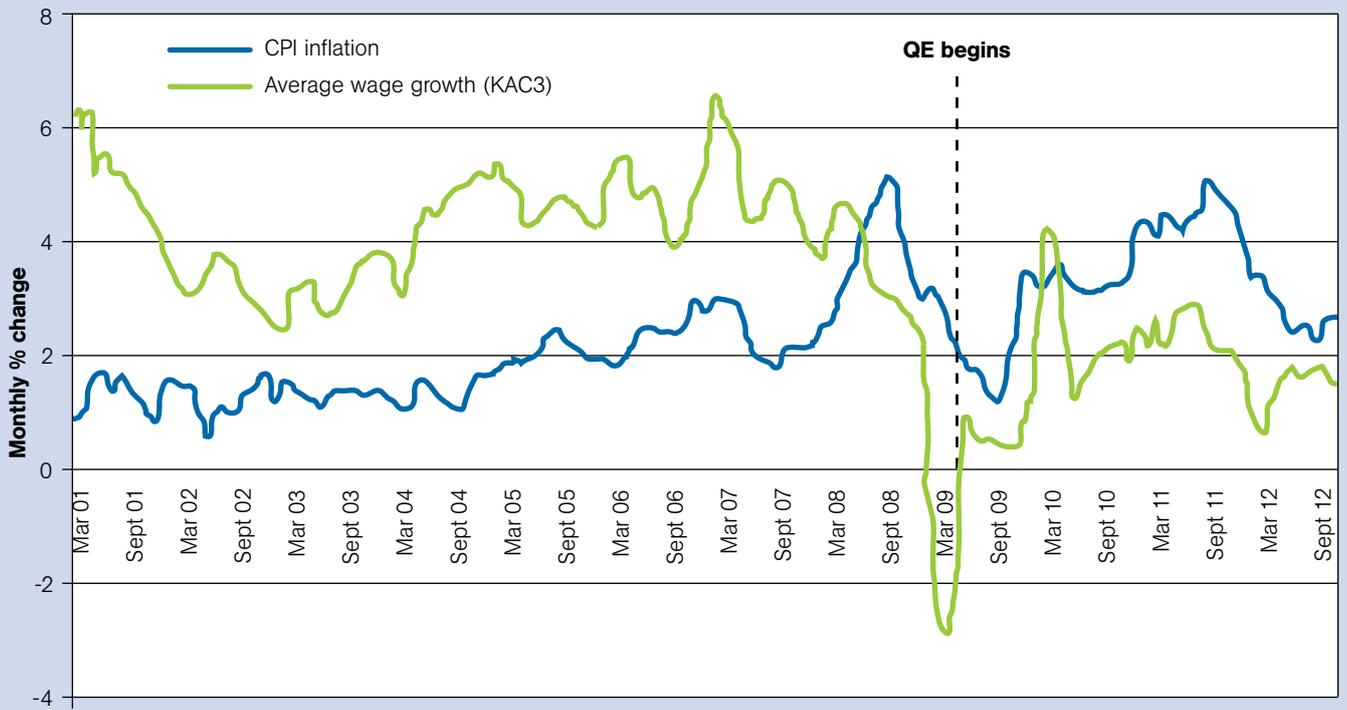
Source: Debt Management Office

– as a result of QE, equivalent to £10 000 for each household in the UK.⁸⁸ However, the distribution of such assets among households is extremely uneven in the UK, with 80 per cent of financial investments (excluding pensions and property) concentrated in those over the age of 45 and 40 per cent in the wealthiest 5 per cent of the population. Estimates using wealth distribution data from the Office for National Statistics show the average boost to the holdings of financial assets and pensions of the richest 10 per cent of households would have been either £128 000 per household or £322 000 depending on the methodology used.⁸⁹ At a time when fiscal policy is disproportionately affecting the poorer sections of society as the Government cuts benefits and public services, this huge boost to the wealthiest segment of population via monetary policy raises serious concerns; we suggest it calls into question the validity of the distinction between ‘redistributive’ fiscal policy and ‘neutral’ monetary policy.

QE has also been bad news for savers (Figure 16) as the rate on time deposits has fallen two percentage points since Bank Rate cuts and QE commenced. The inverse is that it has been better news for mortgage holders who will have seen their non-fixed payment rates falling.

In addition, whilst there are clearly considerable benefits to preventing deflation that QE helped achieve, it has (along with ultra low-interest rates) almost certainly contributed to keeping inflation above real wages, in particular since the second half of 2010 (Figure 16). As Professor Philip Haynes has pointed out, rising Consumer Price Inflation (the usual measure used by the authorities) has a disproportionate effect on the poor who spend a greater proportion of their income on consumer goods such as fuel and food.⁹⁰ Research suggests that when prices rise faster than income, this increases total debt for poorer households.⁹¹ Such households do not enjoy the lower debt costs associated with QE because of being at high risk of default and having minimal assets as credit security.⁹²

Figure 15. Inflation versus Real Wage growth, 2001–2012.

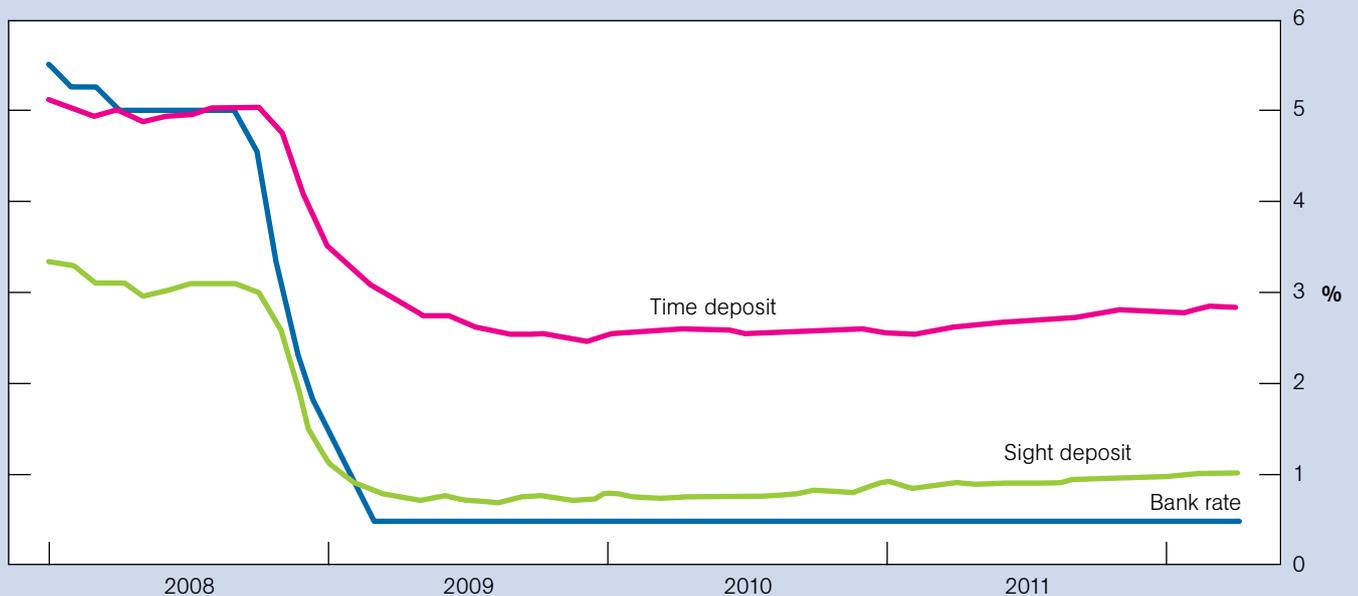


Source: ONS

4.4.1 Impact on pensions

The effect of QE on pensions is of greater significance than savings since pensions are more likely to be held in longer-term assets, such as gilts, or in longer-term corporate bonds that will be more affected by QE than by changes in short-term interest rates. Furthermore, the gilt yield is a key determinant in the calculation of future pension liabilities in the Defined Benefit schemes (final or career average salary schemes where the risk is borne by the employer), which constitute 60 per cent of UK pensions. Falling gilt yields increase the projected costs of meeting future pension payments and therefore require increased contributions by employers today. On the other hand, the boost in financial asset prices from QE will increase the present value of pension funds.

Figure 16. Change in household deposit rates and Bank Rate.



(a) Monthly average of UK-resident monetary financial institutions' effective interest rates or the stock of outstanding deposits.

Source: Bank of England⁹³

The Bank of England has argued that falls in government bond yields, which will negatively affect the value of pensions, may have been offset by the rise in corporate yields.⁹⁴ However, for pension schemes whose liabilities (future payments to employees) are already greater than their assets, QE will lead to a proportionately greater increase in this deficit. In analysing the impact of the first round of QE1, the Pension Corporation (2011) estimated that it increased pension fund deficits in the UK by around £74 billion (after netting off equity gains) – equivalent to £7.4 billion additional annual contributions by employers over a 10-year period.⁹⁵ Since QE began, there has been a sharp deterioration in the liabilities of pension funds that were already in deficit, bringing down the aggregate surplus/deficit significantly.⁹⁶

This worsening deficit position may be one of a number of factors behind UK companies' reluctance to invest more of their estimated £750 billion⁹⁷ cash pile on expanding production – a perverse outcome for QE which is a policy aimed at boosting nominal demand and GDP growth.

4.5 Risks posed by QE

QE, as currently practised by the UK and other countries, carries with it a range of risks and unintended consequences. Most obviously, there is a danger that QE artificially inflates the value of certain assets, in particular equities and commodities. Deprived of government debt, investors' search for yield may become increasingly detached from market fundamentals. The huge rise in equity prices since 2009 (Figure 7) needs some explanation given the global economy has been in a slump, unemployment is rising and many developed economies have been cutting back on government expenditure. The combined effects of large-scale asset purchases by western central banks – \$7 trillion in total up to now – appear to provide it.^{98,99}

International financial institutions, including the World Bank, the International Monetary Fund (IMF), and the Bank of International Settlements have expressed concern about this phenomenon in recent times.^{100,101} In a recent report, the IMF warned of signs of a 'mispricing of credit risk', a euphemism for asset bubbles.¹⁰² It also estimated that losses from soaring bond yields – and therefore falling values – could reach 6 per cent for the Bank of England (although this, of course, assumes that the Bank of England will eventually sell the bonds back in to the market). Both the IMF and the World Bank have also pointed to the potentially destabilising effect on developing countries as investors flood currency and commodity markets with QE funds. The IMF stated in the same report that:

More generally, effects on Emerging Market Economies can be destabilizing if amplified by market imperfections and relatively shallow markets. The limited ability to absorb capital and the tendency to trade on short-term trends can cause excessive currency appreciation and volatility, unsustainable credit expansion, and asset price bubbles (including in commodities, especially those held as assets, like oil). These could eventually undermine financial stability.

There was a large financial outflow from the UK following the first round of QE^{103,104} alongside major inflows in developing countries – in particular East Asia and the Americas – suggesting investors were using the funds to buy up assets in these countries. The recent announcement of the potential unwinding of QE in the U.S. has caused considerable volatility in stock markets and in emerging market economies.

4.6 Empirical evidence on drivers of GDP

As mentioned earlier, a flaw with many of the empirical studies of QE is that they focus on intermediate variables – typically financial market prices or yields – rather than on the ultimate goal of QE, nominal demand, or GDP growth (nominal means not adjusted for inflation). Another problem is that the time period for analysis is so short and the economic and financial dynamics so extraordinary that counterfactual analysis and attribution become major problems.

Our empirical quantitative research on the effects of QE, which develops earlier work by co-author Richard Werner,^{105,106,107} attempts to overcome these problems in two ways. First, we examine the impact of a wide range of different monetary policy variables, including QE-related variables, directly on *nominal GDP growth*, the ultimate goal of QE. These are laid out in Table 1, along with their hypothesised effects. Secondly, we use a long quarterly time series, stretching back to the first quarter of 1990 and up to the last quarter of 2012, a total of 92 observations.

To further capture the historical dynamics of the period under question, we also regressed four 'lags' of each variable (i.e. the result in the corresponding quarter of the year before) and also included lags of the dependent variable (nominal GDP growth). This provides us with a total of 34 different independent variables. We also include a 'dummy' variable to adjust for the effect of the financial crisis. A full explanation of the methodology along with a range of statistical tests and data sources is provided in the Technical Appendix.¹⁰⁸

Table 1. Variables and their hypothesised effects.

<i>Variable</i>	<i>Variable name (Quarterly Year- on-Year change)</i>	<i>Hypothesised effect</i>
Bank Rate (the bank of England interest rate charged to banks for holding reserves)	Bankrate	Standard monetary policy impact – reduce interest rate leads to increased growth
Quantity of reserves in the banking system	Reserves	More reserves in the banking system reduces liquidity and funding costs and leads to more bank lending and increased growth
Bank of England total assets	BoETA	'Portfolio rebalancing effect' – as the bank takes more safe assets on to its balance sheet and pushes up prices, it should stimulate investors to switch to corporate assets (bonds or equities), leading to increased business investment
Qualitative easing – the ratio of long-term assets (government bonds) to Total Assets held on the Bank of England's balance sheet	QualEasing	'Portfolio re-balancing effect' – by pushing down medium and long term interest rates on government bonds, investors should again be incentivized to buy corporate assets.
Broad money – the broadest deposit aggregate	M4	Increase in broad money will have portfolio re-balancing effects as investors switch out of deposits and in to higher yielding corporate assets.
Bank credit to the real economy (excluding the effects of securitization)	M4LREx	Credit creation by banks for GDP transactions should directly create growth

Our 'general-to-specific' methodology involves sequentially reducing the least significant of the independent variables in the general model down until we are left with a parsimonious¹⁰⁹ specific model, as shown in Figure 17 (the General model is in the Appendix). Our results suggest changes in *bank credit creation to the real economy* (with a one-year time lag – M4LREx_1) are the most important predictor of GDP growth, taking into account the relative impact of all variables on GDP and their lags.

Table 2. Parsimonious model of Ordinary Least Squared general-to-specific model of QE variables regressed on to Quarterly Year-on-Year GDP growth, 1990 Q1: 2012:Q4 (92 observations).

	Coefficient	Std. Error	t-ratio	p-value	
const	0.0200038	0.00281726	7.1004	<0.00001	***
YoYM4LREx_1	0.0918259	0.025919	3.5428	0.00064	***
Crisis Dummy	-0.0363168	0.00544343	-6.6717	<0.00001	***
YoYGDP_1	0.453059	0.0891117	5.0842	<0.00001	***
YoYGDP_2	0.335024	0.0941462	3.5585	0.00061	***
YoYGDP_4	-0.291836	0.0686314	-4.2522	0.00005	***

Mean dependent var	0.047987	S.D. dependent var	0.023799
Sum squared resid	0.008481	S.E. of regression	0.009931
R-squared	0.835448	Adjusted R-squared	0.825881
F(5, 86)	87.32633	P-value(F)	3.40e-32
Log-likelihood	296.8744	Akaike criterion	-581.7489
Schwarz criterion	-566.6182	Hannan-Quinn	-575.6420
rho	-0.003576	Durbin's h	-0.064769

Changes in interest rates and increases to 'broad money' (increased deposits in the hands of investors and banks) do not appear to have had any significant effect on nominal GDP growth even in non-recessionary periods (e.g. 1993 to 2008) – both variables drop out of the specific model. Likewise the proposed 'portfolio re-balancing' instruments, 'QualitativeEasing' and changes to total Bank of England assets. The lags of GDP (e.g. YoYGDP_2) remain in the parsimonious model, but this is quite a standard result for quarterly time series data.

As shown in Figure 17, the results support the Quantity Theory of Credit¹¹⁰ which postulates that nominal GDP growth is a function of credit creation for GDP transactions. It is found that the relationship between credit creation for the real economy and nominal GDP is close for the whole 12-year period under analysis, with the exception of the crisis period itself where credit creation appears to lag GDP growth. We believe this may be due to the impact of automatic stabilisers¹¹¹ coming into effect as the recession emerged and also the international effects described earlier, in particular the action of the Federal Reserve. The UK banking system, meanwhile, took much longer to recover for reasons already described in detail.

Figure 17. Bank lending to the real economy versus growth rate of nominal GDP. 1990, Q1 to 2012, Q1 (Quarterly, not seasonally adjusted).



4.7 Summary

For a range of reasons, QE has appeared to have a limited impact on bank lending, which our empirical analysis suggests is a key driver of nominal GDP. The portfolio rebalancing effect hasn't appeared to be very strong either. Investors, companies and (richer) households seem to prefer holding on to the extra liquidity or wealth that QE has provided them with rather than invest their money in GDP-related transactions. The reasons for this are no doubt manifold but surveys suggest a major barrier to investment is a simple lack of confidence in the economy and future demand for goods and services.¹¹² This lack of confidence rose significantly in 2008 and has remained high relative to historical levels at around 60 per cent of respondents. Inability to raise external finance is also cited by over 10 per cent of respondents which is also high by historical standards.

Meanwhile, the banking system remains equally stymied. Despite the more direct intervention of the FLS, key parts of the sector are deleveraging and reducing their balance sheets at just the time the Government needs them to be doing the opposite. Once they have built up their capital to the levels required by the Bank of England, no doubt they will start to become more willing to lend again. But UK banks had been failing to invest in SMEs and other parts of the productive economy for decades even before the financial crisis.¹¹³ We conclude that more urgent and direct action is warranted to re-boot and re-balance the UK economy, and the next section sets out proposals for how this can be achieved.

5. Strategic QE: kick-starting the real economy

It was estimated at the time that one out of ten commercial aircraft in Canada was pledged to the Industrial Development Bank and that a person could probably travel from one end of the country to the other on aircraft mortgaged to the Bank, being handed on from one borrowing company to the next.

E. Ritchie Clark¹¹⁴

It is clear ... that what a great nation can 'afford' in periods of crisis depends not on its money but on its man power and its goods. Russia, Italy, Germany, Japan, the United States, all used money in the situations mentioned, but money was obviously not the dominant factor. Man power and materials were the dominant factor. Yet at other times, when crisis was not so acute, the money for necessary tasks could not be found. Unemployment, insecurity, want, dragged on. This is a puzzling paradox. At certain times a nation can afford what at other times, with no less money, it cannot afford. At certain times we are afraid of national bankruptcy, and at other times we give it hardly a thought.

Stuart Chase, 1943, Economist, engineer and adviser to Franklin Roosevelt and Lyndon Johnson.¹¹⁵

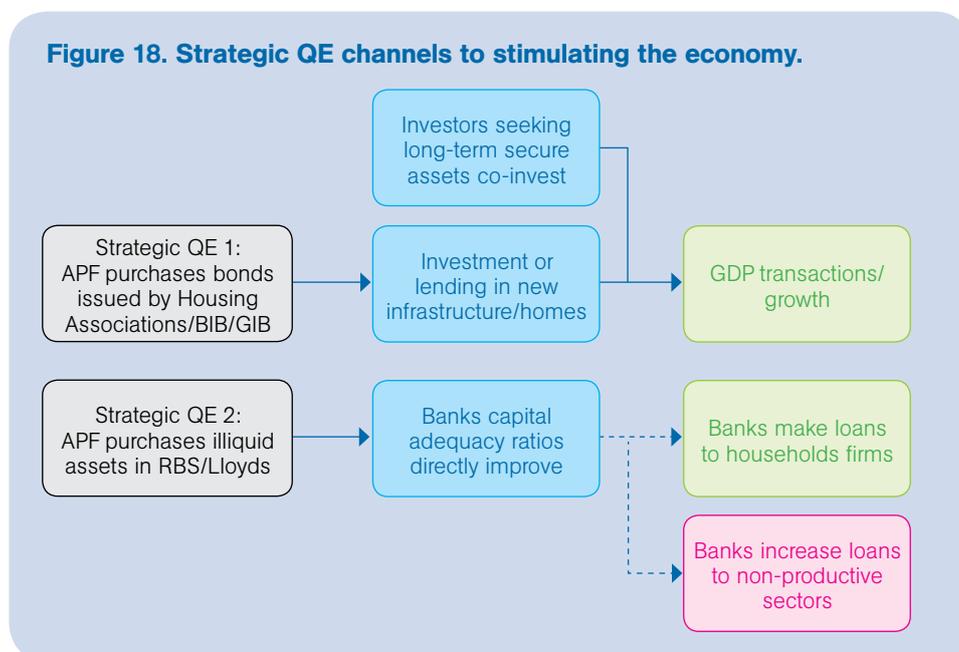
So there clearly is spare capacity. But I think it's also the case that if demand were to pick up quickly then there would be a period over which demand could grow at much faster rates than at present and would bring forth the supply that would meet that demand.

Mervyn King, Governor of the Bank of England¹¹⁶

Our econometric modelling shows that the most important macroeconomic variable driving GDP growth is likely to be credit creation by banks for the real economy. QE and the Bank of England's other policies have failed to sufficiently stimulate this kind of lending. The Government needs a different kind of 'monetary activism'.¹¹⁷

We assess two options for more targeted use of QE funding: first a massive purchase of illiquid assets from those banks which are most in need of a balance sheet clean-up;^{118,119} secondly, getting new money into the real economy directly via the purchase of bonds in institutions – such as public development banks or housing associations – with a remit to invest directly in the real economy.

Figure 18. Strategic QE channels to stimulating the economy.



There is a strong case that both these options would be likely to enhance the positive impact of QE on the real economy. The channels by which this is achieved, set out in Figure 18, are much simpler than the reliance of existing asset purchases on the portfolio rebalancing, wealth, and bank lending channels described in Section 4.

5.1 Purchasing non-performing assets from UK banks

In this final press conference, the out-going Governor of the Bank of England, Mervyn King, was asked about his actions during the crisis, and specifically whether the banks' bad debts had been sufficiently recognised and dealt with. His answer was unequivocal: the Bank of England made it clear at the time (although not publicly) that a more radical recapitalisation was necessary.¹²⁰ King's answer is revealing. With the benefit of hindsight, he clearly believes the Government and the Bank of England should have done more to clean up the commercial banks' balance sheets. How might the new Governor, Mark Carney, make good on King's regret?

The most obvious way of doing this would be for the Bank of England to re-start the purchase of non-government assets, in particular non-performing assets or loans which banks lack confidence will be repaid at market rates. The SLS and FLS can both be seen as interventions that addressed this problem to an extent in that they enable banks to temporarily swap illiquid assets for Treasury Bills that can be used access reserves. Ultimately though, such schemes do not address the banks' need to enhance their capital adequacy ratios since the risk remains on the commercial banks' balance sheets. These risks are considerable, as set out in a statement by the FPC which identified the following additional capital requirements for UK banks arising over the next three years:¹²¹

- Additional losses of around £30 billion on specific high-risk loan portfolios, including exposures to UK commercial real estate and vulnerable euro-area economies.
- Additional costs of around £10 billion in relation to claims for mis-selling.
- Additional capital requirement of roughly £12 billion from applying a more prudent approach to risk weights in the banking book (raising risk-weighted assets by some £170 billion, equivalent to roughly £12 billion of capital at a 7 per cent equity capital ratio)

Taken together, the effect of these three adjustments would be equivalent to around a £50 billion reduction in the regulatory capital of the major UK banks and building societies. The FPC also stated that further increases in capital will be required to meet full Basel III compliance, the surcharge on systemically important banks, the new trading book capital regime, and the UK Government's implementation of the Independent Commission on Banking (ICB) recommendations.

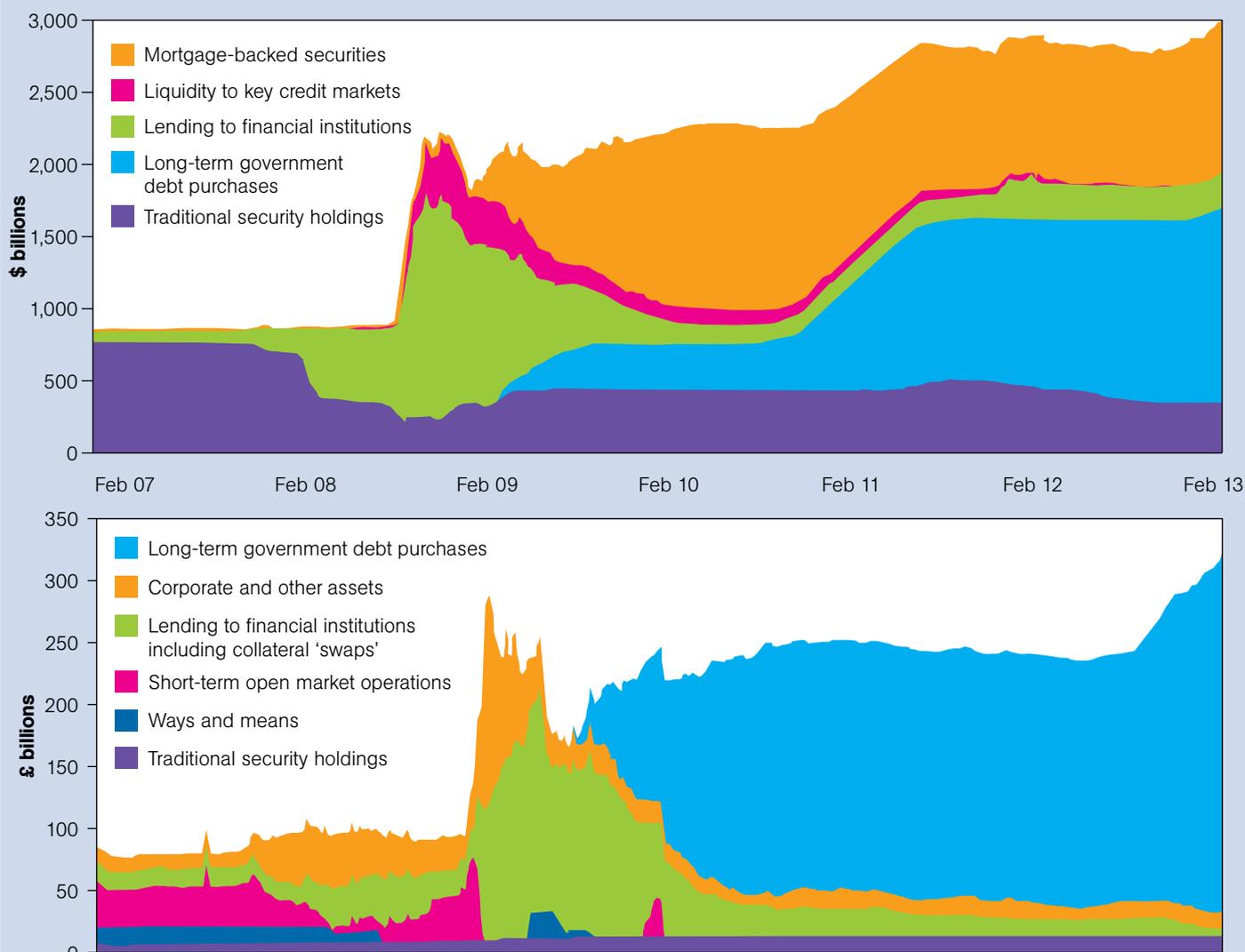
To address the coming capital crunch in the UK banking sector, the APF could purchase illiquid assets from the banking sector as was done between March and December 2009 (see Section 2.3.4) and has been done to a much larger extent by the Japanese, US, and European Central banks.^{122,123,124,125} King has expressed concern that such action risks the Bank of England incurring losses for taxpayers, and as such is a decision for the Chancellor, not for the Monetary Policy Committee.¹²⁶

There are two responses to this. First, any assets bought by the APF are indemnified by the Treasury and so ultimately owned by the taxpayer rather than the Bank of England. Secondly, RBS (and to a lesser extent Lloyds) are now effectively nationalised banks and so the taxpayer is already at risk in the case of these two banks. There have been widespread calls for RBS to be recapitalised and broken up to create greater competition in the banking sector, including by the Business Secretary, Vince Cable, two members of the Parliamentary Committee on Banking Standards and by nef.¹²⁷ The APF could play the role of the 'bad bank', holding the illiquid assets on its balance sheet and freeing up the 'good bank' to focus on retail lending.

5.1.1. Credit-easing: How QE worked more effectively in the USA

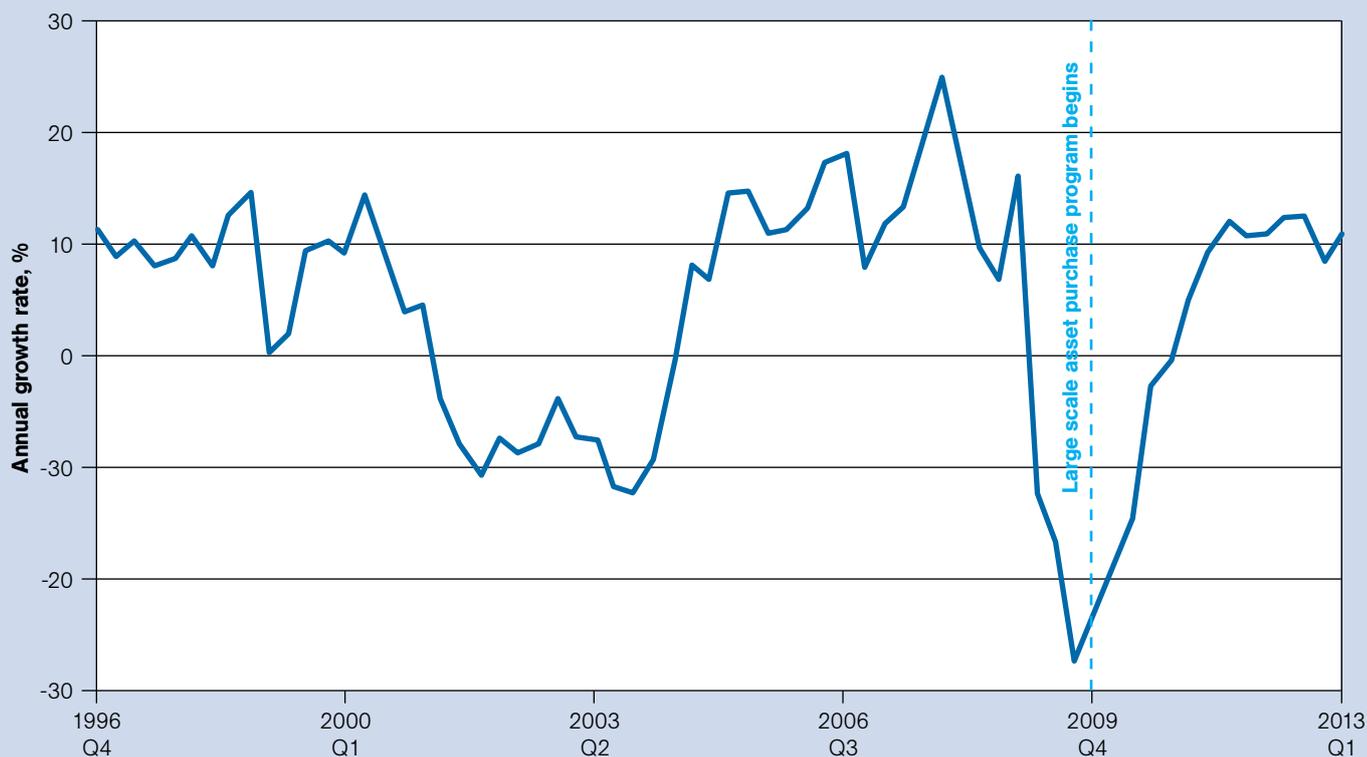
The Federal Reserve began large-scale purchases of longer-term securities in November/December 2008. It concentrated on purchases of agency mortgage-backed securities (MBS) rather than government debt (the term 'agency' is used because the securities were held by government-owned mortgage enterprises, Fannie Mae and Freddie Mac). In March 2009, the Federal Open Market Committee (FOMC) announced a major increase in the scale of purchases – raising ceilings on purchases of agency MBS and agency debt to \$1.25 trillion and \$200 billion, respectively (shown in orange in Figure 19).¹²⁸

Figure 19. Federal Reserve and Bank of England assets compared.



Source: Charles Schwab; Bank of England¹²⁹

Figure 20. US bank lending to businesses. (commercial and industrial loans, seasonally adjusted, annual growth rate, break adjusted).



Source: Federal Reserve Board 2013

We can see from Figure 19 that whilst the size of asset purchases was not dissimilar in total, close to half of the Fed's purchases was made up of these MBS securities (orange colour). The US Central bank has effectively taken \$1.5 trillion of illiquid and underperforming financial sector assets on to its own balance sheet, massively improving the balance sheets of all those US banks exposed to the credit crisis. And as part of its QE3 programme, the Fed has announced the initiation of further purchases of MBS at a rate of \$40 billion every month, amounting to close to half of its total stimulus of \$85 billion per month.

In contrast, the Bank of England offered short-term relief to banks through its SLS and now FLS but the quantities and time period were much smaller. The Fed's equivalent of QE – the purchase of longer-term Treasury securities – began later (shown in blue in Figure 20) and involved maintaining the existing dollar stock of purchased securities on its balance sheet by reinvesting proceeds from agency-related securities investments in longer-term Treasuries.

Theoretical modelling suggests that purchases of securities with some private risk (i.e. asset-backed securities) have stronger effects than purchases of government bonds – i.e. the USA's 'credit-easing' approach should give a significantly stronger boost to US GDP than the UK Quantitative Easing policy.¹³⁰ And it is certainly the case that US lending to the real economy, in stark contrast to the UK, has recovered to pre-crisis levels (Figure 20).

There may also a stronger demand-side impact from the purchase of MBS. One of the Governors of the Fed, Jeremy Stein, has stated that he believes the purchase of MBS has greater impact on GDP 'dollar-for-dollar' than the purchase of bonds because of its effect on lowering household mortgage rates and thus raising household disposable income and spending.¹³¹

Japan also engaged in large-scale asset purchases from the banking system in an earlier, much larger banking crisis (1945). Despite its much larger scale and the much larger dependence of the corporate sector on borrowing from banks (100 per cent in the early post-war years, as capital markets remained basically

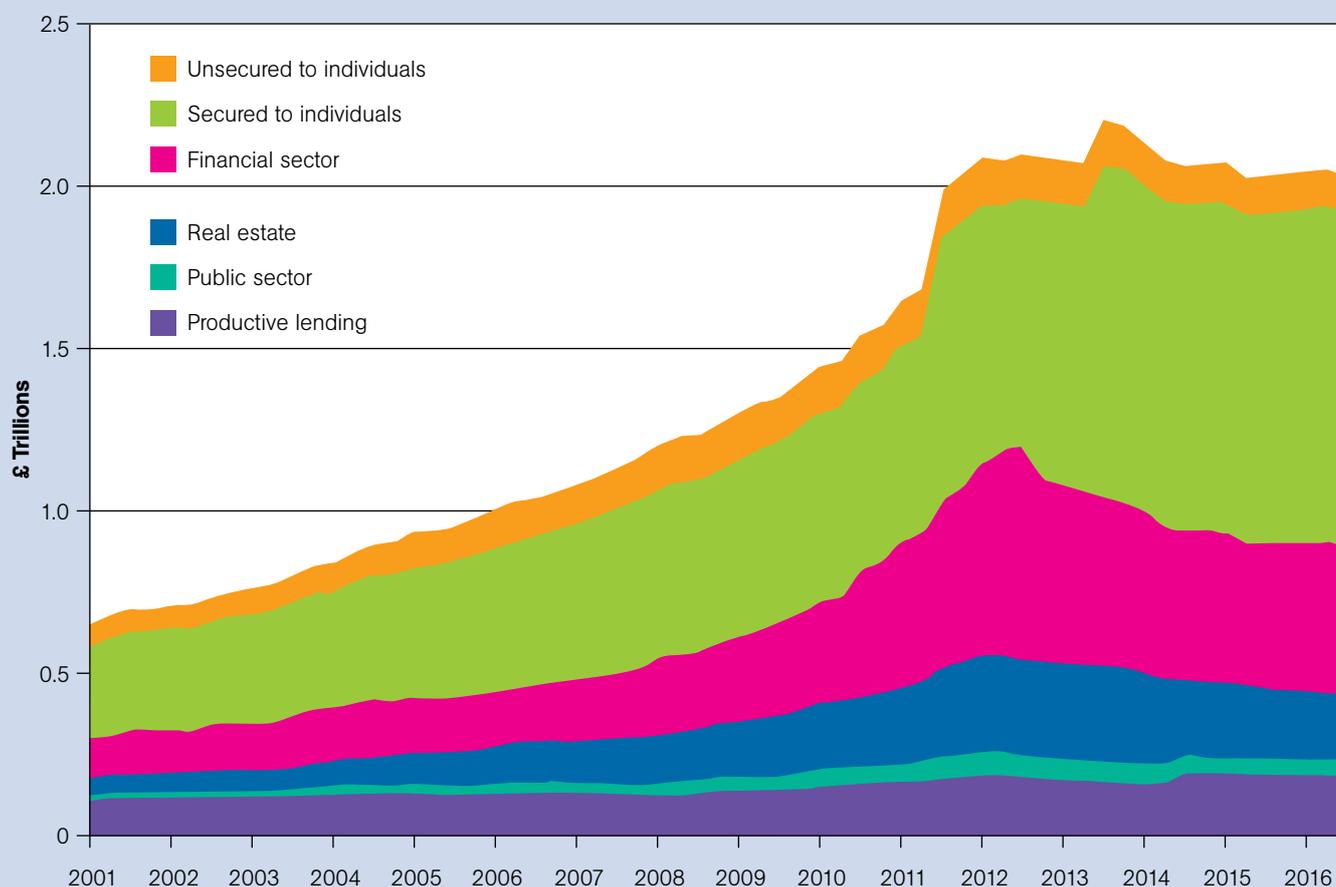
closed), this crisis did not result in noticeable reductions in economic growth or economic activity. Bank credit growth recovered significantly within a year and Japan's economy could tackle the vast challenges of rebuilding a bombed-out economy.¹³² Why the Bank of Japan chose not to adopt this highly successful policy in the 1990s is subject to some debate.¹³³

Nevertheless, the Bank of England was probably the pioneer of such measures of purchasing non-performing assets from the banks in order to support the economy. This happened in August 1914 and shortly thereafter. It had been found that the declaration of war on Germany and its allies by the UK at that time had rendered many major UK financial institutions bankrupt, since international bills of exchange, bills of trade, and other financial instruments issued by these enemy nations had to be considered unenforceable and hence in default. However, London had been the world's financial centre where such international instruments had been traded and thus were held to a significant extent by UK financial institutions. Since the outbreak of the Great War was not considered to be an ideal time for a banking crisis, the Treasury and the Bank of England took the most efficient step to solve the non-performing asset problem in the banking system: the central bank purchased these instruments, at prices far exceeding any perceived market value (it was indemnified by the Treasury, but these indemnities were not needed and never used). The operation was successful without direct costs to taxpayers.¹³⁴

5.2 Direct lending for real economy investment

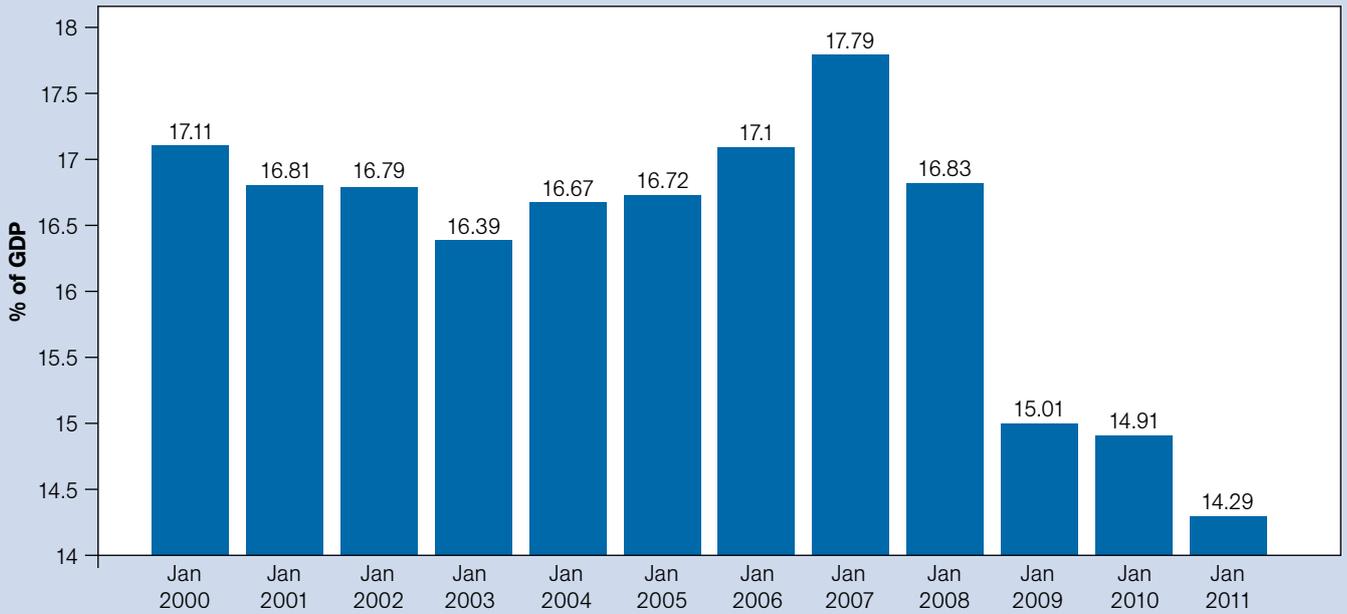
There has been a range of proposals for how QE could be targeted to more directly meet the needs of the UK economy and create growth.¹³⁵ Such interventions could do more than just meet the short-term need for GDP growth. As can be seen in Figure 21, UK banks prefer making loans that are secured against existing property or to other financial institutions rather than making loans that support productive activity. This was the case for many years prior to the crisis. Figure 23 does not appear to represent an efficient market allocation of capital unless we believe that favouring asset bubbles over productive investment is efficient.

Figure 21. Net bank lending by sector 1997–2012.



Source: Bank of England¹³⁶

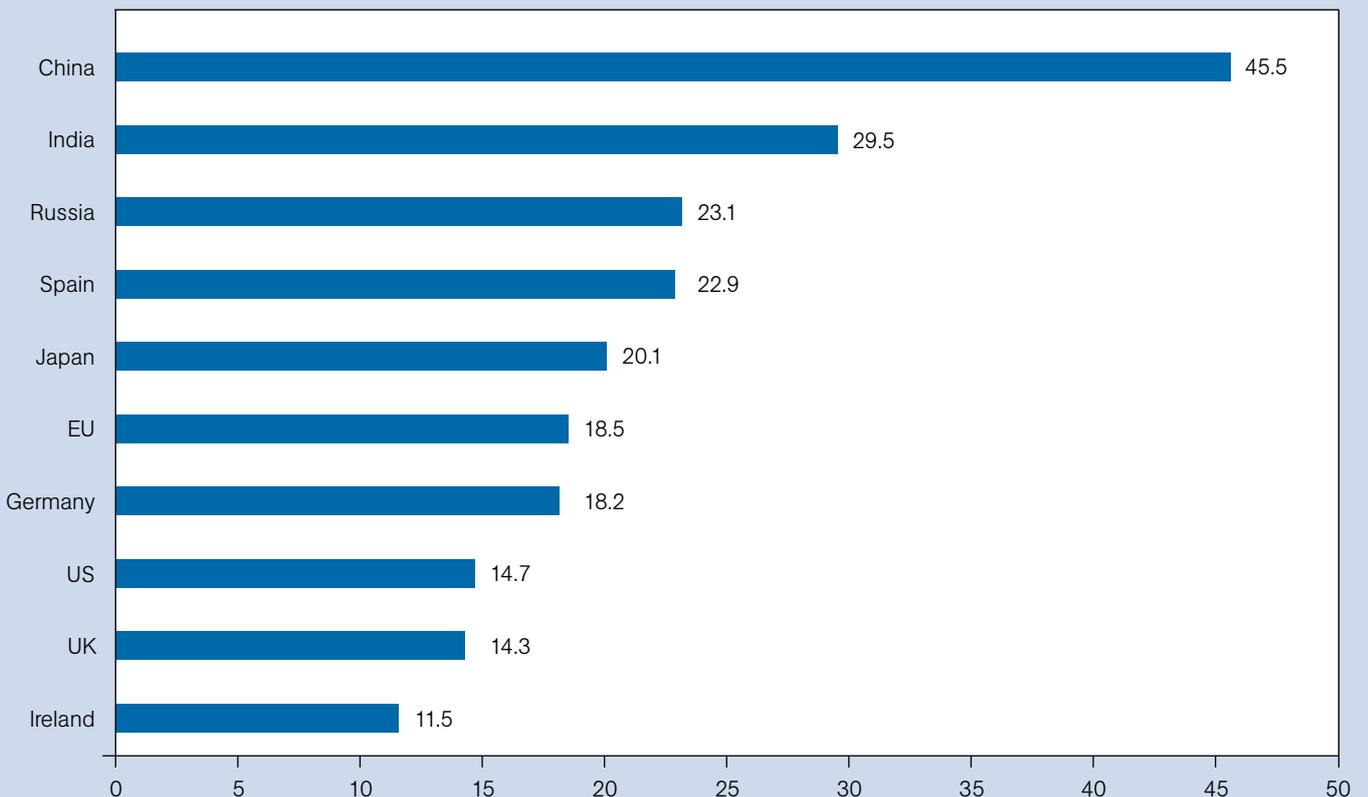
Figure 22. UK Gross Fixed Capital Formation 2000/2011.



Source: World Bank

The lack of productive lending by banks has been exacerbated by a fall in government capital investment as a percentage of GDP since the crisis (Figure 22). This is now significantly lower than our major competitors (Figure 23). Although the government has bought forward some capital spending, since 2010, public investment has fallen from £50 billion (3 per cent of GDP) to £28 billion (1.5 per cent), and is forecast to drop to £25 billion next year and £22 billion the year after.¹³⁷ That the UK needs large-scale infrastructure investment in transport, energy, and housing is widely accepted and has been laid out in detail elsewhere.^{138,139} How to fund such investment with patient, low-cost capital remains a more difficult problem, however.

Figure 23. Gross Fixed Capital Formation as a % of GDP in selection of G20 countries.



Source: World Bank

We propose that the APF could purchase bonds in intermediaries that specialise in providing funding to particular sectors of the economy that are recognised as having spare capacity. The existence of spare capacity and/or unfulfilled demand provides *prima facie* evidence of market failure, which should ensure compliance with EU state aid regulations (although this is a complex area where further research, including expert legal opinion, is required to define the precise structures and terms and conditions required to ensure compliance).

The advantages of this proposal are as follows:

- Investment via purchase of newly issued bonds is a small evolution from current practice. Indeed, as the original mandate of the APF was to purchase corporate bonds, it may be seen as more in keeping with the intended purpose of the Treasury in authorising the creation of the APF than the purchase of government bonds.
- Purchase of newly issued bonds, rather than existing bonds in the secondary market, provides a direct injection of capital into the economy instead of relying on financial investors to reallocate capital through the portfolio rebalancing effect.
- The use of intermediaries ensures an appropriate division of responsibilities between investment professionals that have the expertise to assess and select individual companies and projects, and economists at the Bank of England who have the expertise to identify economic sectors that require capital investment. We examine governance issues in more detail in Section 6.2.
- The provision of patient capital to intermediaries is likely to provide opportunities to 'crowd-in' private finance by giving confidence to private sector investors.
- The terms of finance can either be at market rates or preferential rates. Market rates would allow for sale of bonds by the APF into the secondary markets at a later date, preserving maximum flexibility around monetary policy and also developing the breadth and depth of UK bond markets. Alternatively, low-cost finance via bonds with very low coupon rates held by the APF until maturity would expand the range of feasible projects to include economically beneficial investment that cannot be provided by the private sector because of extensive social or environmental externalities. This precedent has been set already by FLS and Help to Buy, both of which provide funding and guarantees at non-commercial rates to commercial banks. FLS funding can be accessed for as little as 0.25 per cent per annum.¹⁴⁰

One of the key obstacles to injecting funds into the real economy under strategic QE (or indeed tax-funded government investment programmes) is finding the means of deploying investment rapidly and efficiently. We examine a range of options which either exist already, or could be utilised with relatively little institutional and regulatory change:

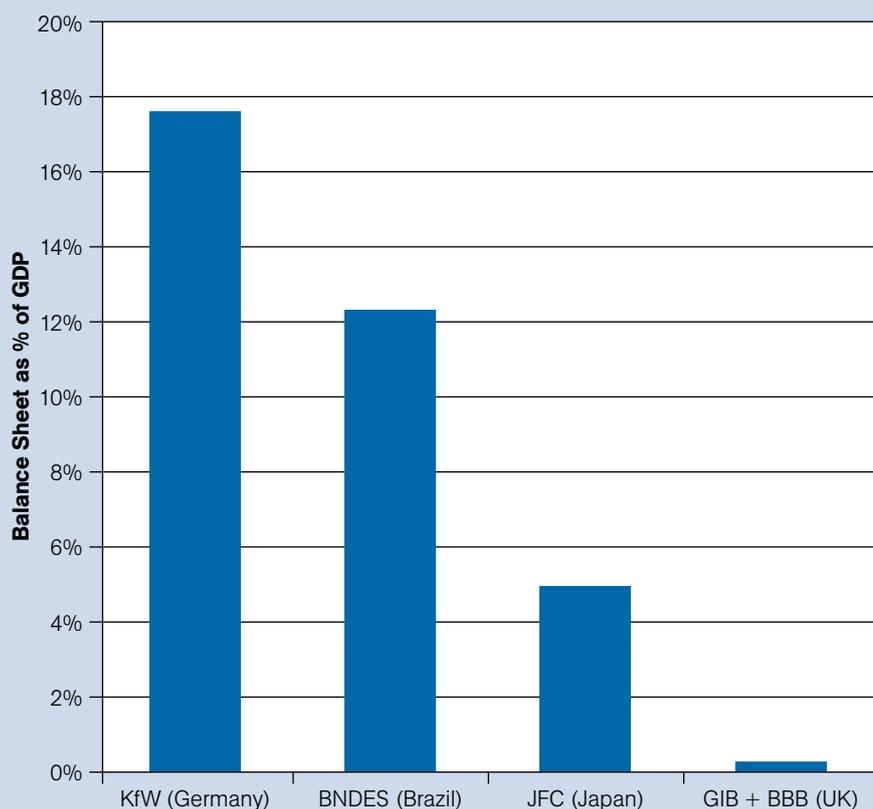
1. National development banks, building on the British Business Bank (BBB) and the Green Investment Bank (GIB).
2. Housing construction, via a new intermediary to fund construction of new homes for social and affordable rent.
3. Housing retrofit, via the Green Deal Finance Company.

We do not consider this to be an exhaustive list and certainly should not preclude other options. They are intended to illustrate that strategic QE is possible in practice.

5.2.1 Capitalising national development banks

We suggest that the APF could fund the GIB and the BBB.¹⁴¹ The current and planned capital base for these institutions – £4 billion of new capital is being invested – suggest they will not be of a size or scale to make a material difference

Figure 24. Assets of selected public investment banks as a % of GDP (2011).



Source: World Bank and respective institutions

to productive investment that the UK economy needs. Comparisons with the UK's key international competitors are not favourable (Figure 24). These institutions should get banking licenses, in order to be able to lend beyond their capital – currently they are better described as 'funds' that leverage existing private sector capital.¹⁴² However, even in their current form, the GIB and the BBB could issue long-term, investment-grade bonds that would be bought by the APF.

There are precedents for central banks supporting the SME sector, including the Canadian Industrial Development Bank (the IDB) which, from its inception in 1944 until 1975, was entirely funded with central bank money creation and cost the taxpayer nothing (Box 3). National and pan-national investment banks today include the Nordige Bank, the European Investment Bank (EIB), the Council of Europe Development Bank, the Banco Nacional de Desenvolvimento Econômico e Social (BNDES) in Brazil, the *Kreditanstalt für Wiederaufbau* (KfW) in Germany, the Japanese Finance Corporation, and the Chinese Development Bank, all of which are considerably larger in scale than the current UK equivalents. These organisations have been highlighted as key to strategic investment and innovation in these countries, in particular by de-risking long-term capital projects that the private sector would otherwise be reluctant to support.^{143,144}

The GIB has already demonstrated the potential of 'crowding in' private sector investment, attracting in £1.67 billion worth of private capital for projects it funded to the tune of £635 million. But these figures pale in comparison with the German *KfW* which has assets of half a trillion euro, making it roughly twice the size of the World Bank (Figure 26). It lent €70 billion in 2011, with about a third going to energy and climate change investments, including €24 billion from 2009 to 2011 on energy efficiency in homes, which leveraged a total investment of €58 billion.¹⁴⁵

The need for public investment banks to support vital infrastructure and SME lending that would otherwise not be undertaken by the private sector is demonstrated by the mandates given to such banks in other countries (Box 4).

Box 3: The Canadian Industrial Development Bank.

The Canadian government established the Industrial Development Bank (IDB), as a subsidiary of the Canadian Central Bank, with a specific remit to support the SME sector in 1944. The IDB was one of the first ever development banks and became one of the largest and most successful.¹⁴⁶ The important role of the central bank and *monetary* policy is made clear in the preamble to the Act which saw the IDB come in force, with the purpose of the bank:

*to promote the economic welfare of Canada by increasing the effectiveness of monetary action through ensuring the availability of credit to industrial enterprises which may reasonably be expected to prove successful if a high level of national income and employment is maintained, by supplementing the activities of other lenders and by providing capital assistance to industry with particular consideration to the financing problems of smaller enterprises.*¹⁴⁷

As with UK banks today, the Canadian chartered banks showed little interest in the kind of medium- or long-term loans that Canadian businesses needed to rebuild their economy. The IDB was set up to plug this financing gap and any business that requested funds would have to demonstrate that it could not attain them at reasonable rates from a commercial bank first.

There were concerns in the Canadian parliament that the IDB would create a conflict of interest for the central bank which was also charged with regulating the country's economy. However, the then Deputy Minister of Finance did not see this as a concern, arguing that the link between the two banks would be beneficial to the central bank. It would have 'more intimate contact... with the conditions and the problems of small and medium sized industries'. Further, 'the operations of the IDB will naturally have to dovetail into the country's monetary policy', and a corporate link between the two banks would make this easier.¹⁴⁸

Despite gloomy forecasts that IDB would help only bankrupts and 'lame duck' businesses, in its 31 years the IDB authorised 65 000 loans totalling \$3 billion for 48 000 businesses that were considered by the Bank (as required by the IDB Act) to be unable to obtain the financing elsewhere on reasonable terms and conditions. Well over 90 per cent were successful in establishing themselves and retiring their IDB loans. It was estimated that they employed close to 900 000 people. Most of the Bank's borrowers were small; the average loan was \$47 000 and 48 per cent of the loans authorised were for \$25 000 or less.¹⁴⁹

In his history of the IDB, former employee E. Ritchie Clark records that:

*The Bank assisted in just about every kind of business and program imaginable, from setting up a new pipe mill or refinery to helping a young lawyer acquire his own law library. It was active in every part of Canada, and in some remote areas such as the Yukon was a major factor in economic growth. The IDB was probably the most important source of financial support from commercial air services apart from the mainline operations, for motels and other kind of tourist services, and for many kinds of manufacturing such as small and medium sized lumber operations and the production of hosiery.*¹⁵⁰

The IDB was entirely funded via the creation of reserves by the Bank of Canada which bought all of its bonds in its 31 years, with not a single penny from the tax payer.

The IDB was initially funded by the purchase of \$25 million equity stock by the Bank of Canada. By starting off with only equity money and no borrowed funds, the new Bank was to have a favourable start and develop some strength and attractiveness in its operating record before it should have to borrow and pay interest. By end of 1947, all \$25 million of stock had been taken down leaving IDB with significant surplus funds. These were invested in government securities. By 1951, virtually all equity funds had been used up in the IDB's loans, and it was starting to look into ways of borrowing.

The IDB charged a 5 per cent flat rate of interest on all of its loans, no matter what the size or sector of business, which was 2 per cent above the average commercial rate of the time. It earned considerable interest on surplus cash from interest – \$600 000 as compared to income from loans totalling \$550 000 – which was important in enabling IDB to meet its operating expenses in the early years.¹⁵¹

Box 4: Mandates of a selection of national and supranational state investment banks.

Institution	Mandate or mission statement
KfW (Germany)	To sustainably improve the economic, social, and ecological condition of peoples' lives.
Small Business Administration (USA)	To aid, counsel, assist, and protect the interests of small business concerns, to preserve free competitive enterprise and to maintain and strengthen the overall economy of our nation.
BNDEs (Brazil)	To contribute to the economic development of Brazil, including sustainable socio-economic development, technological innovation and the modernisation of public administration.
Council of Europe Development Bank	Strengthening social cohesion in Europe. <ul style="list-style-type: none"> • Strengthen social integration • Manage the environment • Support public infrastructure with a social vocation
Nordic Investment Bank	To promote sustainable growth by providing complementary financing based on sound banking principles which strengthen competitiveness and enhance the environment.
European Investment Bank	To support projects which make a significant contribution to growth, employment, economics and social cohesion and environmental sustainability in Europe and beyond.

5.2.2 Buying housing association bonds for new home construction

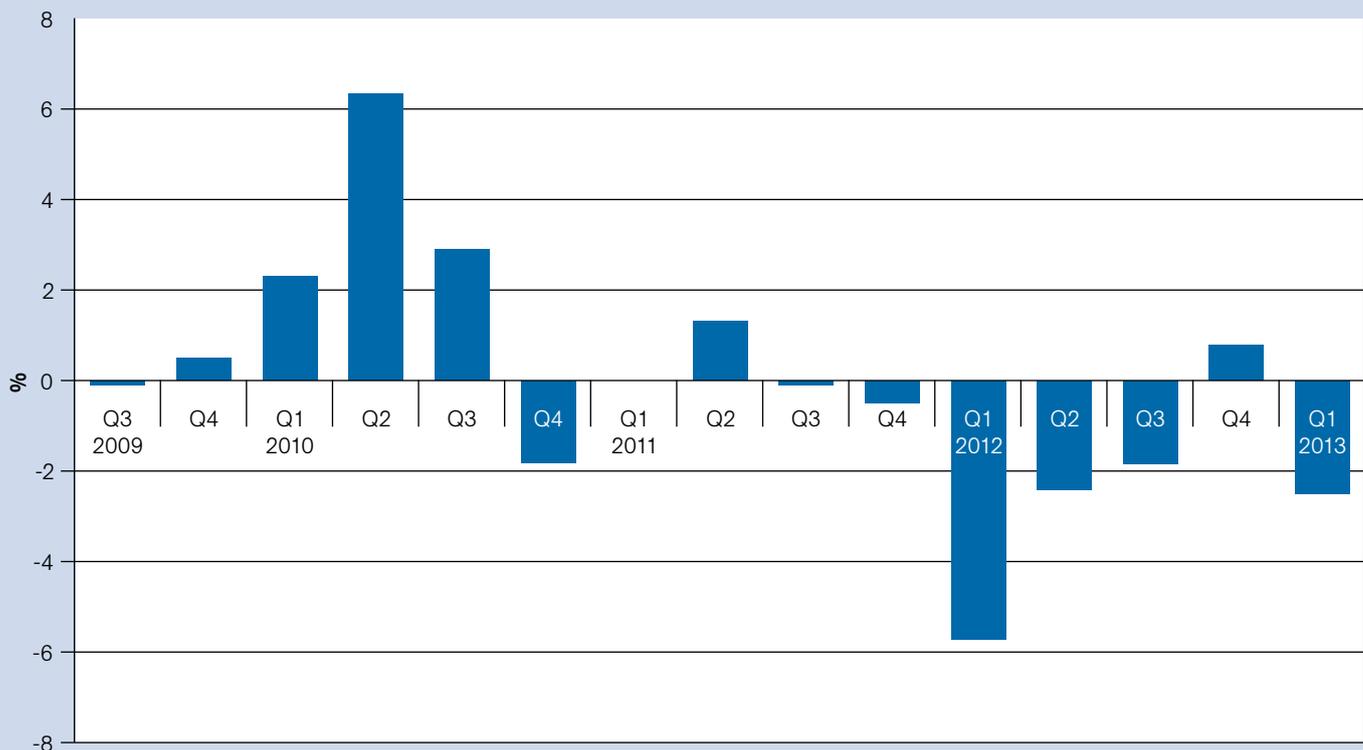
Alternatively, or in addition, APF funds could be used to support the construction of new low-cost housing, a call already made by a number of organisations and experts in the housing area.^{152,153,154}

Construction has long been recognised as an important source of growth in the UK economy. While it only contributes around 7 per cent to GDP directly, when the entire construction value chain is included the figure goes to 13 per cent, with around three million people employed in 2010.¹⁵⁵ Estimates put the construction 'multiplier' at around £1:2.84, much higher than most sectors.¹⁵⁶ Construction work is especially good for generating local jobs and local economic activity, with over 90p in every £1 of construction spending retained locally and 93 per cent of the supply chain sourced domestically. As the vast majority of the 263 000 firms are classed as SMEs, the sector can also harness this growth potential.¹⁵⁷ In addition, the sector places little reliance on imports, with 93 per cent of intermediate consumption (its supply chain) being accounted for by UK-based suppliers and considerable export potential.¹⁵⁸ Construction jobs are also estimated to be around 75 per cent more labour intensive than service sector jobs and well suited to apprenticeships and youth training schemes.¹⁵⁹

Yet in 2012 alone, 89 000 jobs were lost in the construction sector¹⁶⁰ and, after a brief resurgence in 2010, the sector has contracted in all but two of the last 10 quarters (Figure 25).

Whilst the fall-off in demand for some kinds of construction, in particular out-of-town shopping centres and business parks, is likely part of an inevitable readjustment to long-term trends following the credit bubble of 2000–2007, there remains enormous pent-up demand for new housing. As shown in Figure 26, home completions remain at historic lows. House-building was particularly vulnerable to the financial crisis because the vast majority of new homes are now built by the private sector which is itself dependent on bank credit, both directly and via the mortgage market. When mortgage lending collapsed in 2008, so did home building. It has yet to recover.

Figure 25. Construction – quarterly % change, 2009–2013.



Source: ONS

But even if private sector house building was to recover, the great need in the UK is for more affordable housing, rather than housing *per se*. Historically, local authorities created social and affordable housing and more recently housing associations have been contributing but the volume remains small. The UK has spent almost £2 billion housing homeless families in short-term temporary accommodation, according to a recent study.¹⁶¹

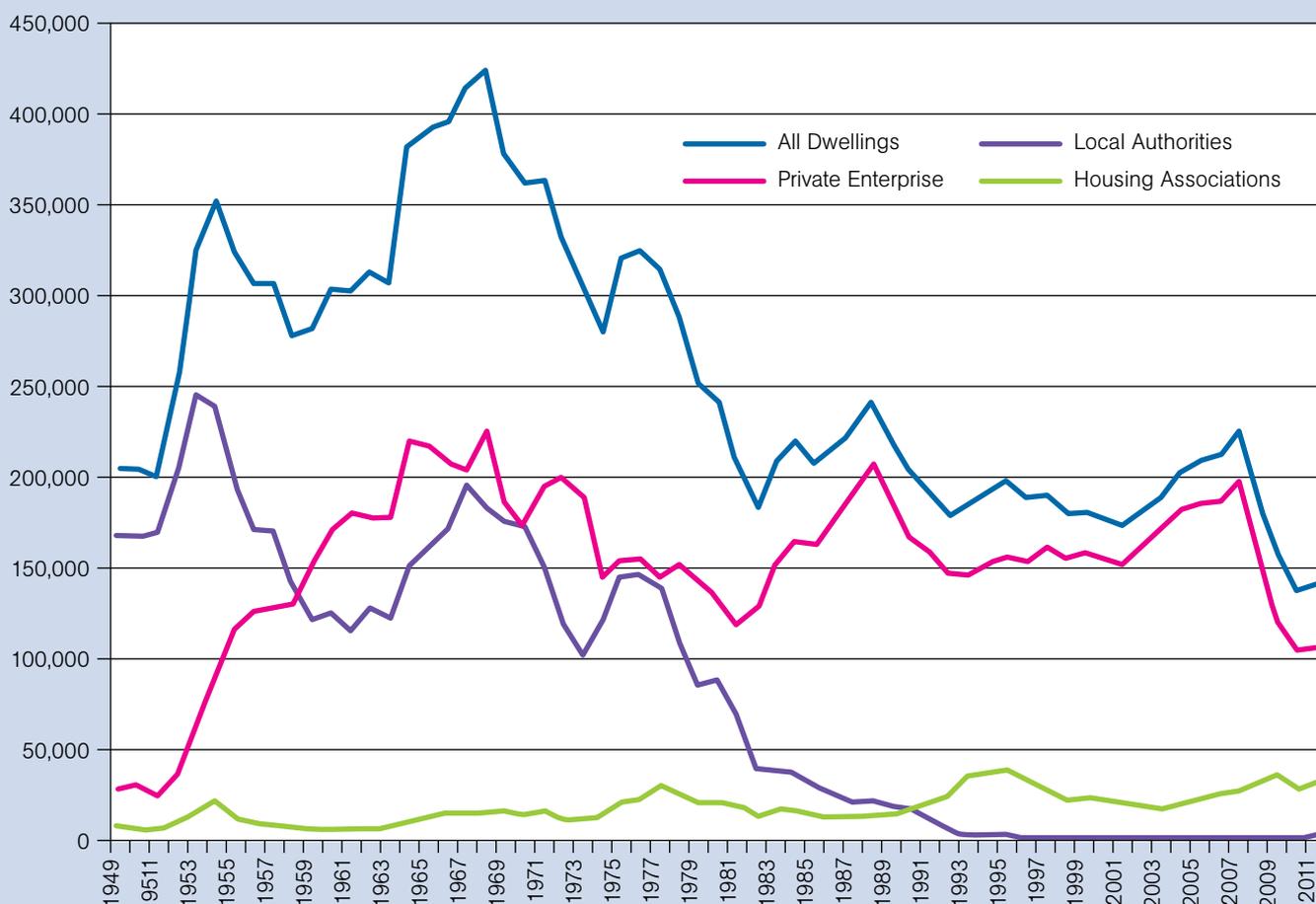
We would argue that the APF should consider purchasing bonds for new house-building that could be issued by housing associations, local authority housing companies, or perhaps via a Public Interest Company (PIC) with a remit to build homes that it will sell on to private or social sectors in the future.

A Housing Investment Bank or public interest company

A financial intermediary would be required in order to fairly allocate APF funds across the UK. One option would be the creation of a third publically owned investment bank, a National Housing Bank. Alternatively, a PIC could be set up with a remit to build homes that it will sell on to private or social sectors in the future, as suggested by construction expert Brian Green.¹⁶² A housing bank or PIC could choose either to buy the bonds at market rates, ensuring they would be tradable in the secondary market, or at a subsidised rate in order to enable more homes to be provided at social and affordable rents, perhaps as low as the 0.25 per cent currently offered by the Treasury and the Bank of England in the FLS.¹⁶³

Both the CBI and trade unions have called on the Government to boost capital spending on housing and construction. In an independent inquiry into affordable housing published last summer by a group of housing agencies, NGOs and trade unions, a call for £5–10 billion QE investment in housing was made and it was estimated this would deliver around 60 000 new homes and enable developments that are currently stalled to proceed. In the same report, The National Housing Federation argues that investment to deliver just 10 000 homes would deliver 75,000 jobs and make a contribution of £4 billion to the wider economy. It would also save £290 million from the social security bill by reducing housing benefit and Jobseeker’s Allowance claims.¹⁶⁴

Figure 26. Housing completions by tenure, 1949–2012.



Source: DCLG

Green argues that the Bank of England should buy £50 billion worth of bonds in a time-limited PIC with a remit to build homes that it will sell on to the private or social sectors in future. He estimates that it would bring in £10 billion to the Treasury from the jobs created, based upon the estimate that every unemployed construction worker put back to work nets the Treasury £25–£30 000 in benefits saved and taxes generated. The Home Builders Federation estimates that every home built creates 1.5 jobs directly and twice that number in the supply chain, so £10 billion (£20 000 x 500 000 homes) is a fairly conservative estimate. Rents could cover payment of interest in the short term and future surpluses on sale proceeds could go back to the Government.¹⁶⁵

If the Treasury is looking for a precedent for the potential economic impact of house construction, it should look back to the 1930s when a huge house-building boom played a vital role in pulling the UK out of the Great Depression at a faster rate than many other countries. In 1930 there were about 800 000 workers in the UK building industry, but by 1939 this number had risen to over a million. The number of new dwellings built each year averaged over 300 000 during this period – far higher than the average of just 184 000 between 2000 and 2010.

Whilst the funding for this expansion in the 1930s was through borrowing, the New Zealand government achieved a similar expansion in house building by utilising direct credit creation by its central bank – The Reserve Bank of New Zealand (Box 5).

Issuing house-building bonds

Increasing difficulty in obtaining reasonably priced loan finance for housing has led to the growth of bond finance, either directly, as in the case of large housing associations, or by participation in aggregated bonds as in the case of smaller associations.^{169, 170}

Box 5. Central Bank public works investment in New Zealand, 1935–1939.

In 1934, New Zealand (still a British colony at the time) established its own (partially privately owned) central bank, the Reserve Bank of New Zealand (RBNZ), with the blessing of the Bank of England. The main objective of the Conservative government of the time was to stabilise the national currency and help reflate the economy following the Great Depression. The New Zealand pound was pegged to sterling and subject to major fluctuations in international commodity prices, with New Zealand highly dependent on Britain and Australia for both imports and exports. Following a devaluation of the NZ£, the central bank began to hold foreign reserves and smooth out these fluctuations.

In 1935, the incoming Labour government made a number of changes to the form of functioning of the RBNZ in its 1936 Reserve Bank Amendment Act. The Act nationalised the organisation completely, with the state buying out the Bank's private shareholders, provided more scope for the Bank to extend credit to the government and its agencies, and also added a power that allowed the Reserve Bank to vary the reserve requirements on trading banks.¹⁶⁶

The incoming finance minister, John Nash, was determined to use the RBNZ as a tool to support the massive fiscal expansion the Labour party thought necessary to shift the economy out of recession and tackle the massive unemployment problem. This broad remit, going well beyond price stability, saw the Reserve Bank being used to support government spending in the form of credit creation for the real economy. The two most notable uses of this policy were RBNZ being used to guarantee farm prices, with shortfalls between market and guaranteed prices met by its advances, and credit for housing finance.

Nash ordered the Reserve Bank to make advances available as a deliberate test of the effect of 'a limited amount of credit expansion' for the building of state housing. The sum involved was significant at £5 million. The new homes built were mainly for poorer households and targeted New Zealand's most serious slums. Aside from housing, the Reserve Bank supported a range of other infrastructure and public works activities and supported farmers by guaranteeing their exports. In total, in the period from 1936 to 1939, the RBNZ created NZ£30 million of credit to support the government. In the latter two years this was 5 per cent and 7 per cent of GDP and 13 per cent and 17 per cent of commercial bank assets.

According to detailed econometric analysis by Greasley and Oxley, the RBNZ's expansionary credit policy was a key feature in reflating the domestic economy and enabling the country to grow more rapidly out of the 1930s depression than many other countries. Over the four year period from when the Bank commenced its credit creation policies, real GDP increased by 30 per cent,¹⁶⁷ with 15 per cent growth in 1936 and 1937 alone.¹⁶⁸

However, transaction costs, in time and money, remain high in this emerging market and there is also the requirement for a strong credit rating. Even if all of these hurdles are overcome, market conditions and investor confidence are fragile in current economic conditions. Therefore, we argue that the proposal for the APF to purchase housing bonds is building on current trends and would help to stimulate a major new investment asset class. Over the medium to longer term, this may help to 'crowd-in' private finance which would help to counter problems with EU state aid regulation.

In fact, the construction of social housing has always been subsidised, and remains so even if the Government has moved away from direct capital subsidy towards offering state-backed guarantees to investors in English housing associations. If the taxpayer is already on the hook by the offer of loan guarantees, then surely there can be no objection in principle to finance from the APF, which is also guaranteed by the Treasury?

Irrespective of the subsidy argument, however, it is hard to think of an asset less risky in terms of future returns than a new home, especially in the UK. A home is a highly tradable asset and in the long run retains its value, with new homes normally gaining added value as the communities they create mature.¹⁷² It is for this reason that it is estimated that to rebuild the UK's housing stock would cost less than half the asset value.

We would not argue that QE funding for house-building alone would solve the many issues with the UK housing market, some of which are set out briefly in Box 6.

Box 6. Addressing structural problems with the UK housing market.

There are numerous issues with the UK housing market, including, as we have seen, a volatile and bubble-prone mortgage lending market, supply constraints due to bureaucratic planning rules, tax arrangements and subsidies that favour private home ownership over other forms of tenure, the house-building sector itself being concentrated in the hands of a handful of large construction companies that are prone to 'land-banking' (waiting to build until prices rise) and, relatedly, the windfall benefits of infrastructure development being concentrated in the hands of these developers and private homeowners.

As a result, houses in the UK are increasingly bought as assets or investments rather than places to live. This is in stark contrast to many other countries, where different institutional and tax arrangements and constraints on lending have led to better balanced tenure distributions, a more diverse and competitive home-building sector building better quality homes, and stable home prices, with profits from land appreciation being evenly spread across communities.¹⁷¹

Local authorities could do what is standard practice in other European countries, and use their rights to purchase (even compulsorily) agricultural land at agricultural market prices, before changing the land-use permission. Alternatively, innovations in mutual or co-operative land ownership enable the benefits of rising land values to be retained in common, while buildings are privately owned.¹⁷³

5.2.3 Financing the Green Deal

The Green Deal is a government initiative to finance the retrofitting of building to higher energy efficiency standards. Owners face a big disincentive to invest in such improvements if they sell the building before reaping the benefits of cost savings. Under the Green Deal, the cost of investment can be repaid by the building owner over time through their energy bills, and unlike a conventional loan it stays with the building when ownership changes hands. The Green Deal also makes financing such improvements easier, with repayments made out of the energy cost savings. Financing for the initiative is being arranged by a new not-for-profit financial intermediary, the Green Deal Finance Company, which has secured funding from the GIB, among others, and is also seeking funding from the EIB.¹⁷⁴ An estimated £14 billion of financing will be required according to government estimates.¹⁷⁵

However, take-up has been slow so far with fewer than 200 contracts signed up in the first five months of 2013, out of 19 000 assessments undertaken.¹⁷⁶ Part of the reason might be the cost of finance. Homeowners will pay a rate of nearly 7 per cent, which is more than the rate of interest on most domestic mortgages. In contrast, programmes from the German investment bank, *KfW*, retrofitted one million homes in a three-year period between 2006 and 2009. This has to be seen in the context of differences in the whole suite of energy and climate change policies between the UK and Germany, but one key difference is the financing cost. A representative deal for a whole-house energy refurbishment financed through a *KfW* loan is 1 per cent fixed for 10 years.¹⁷⁷

The APF is currently paying a rate of interest to the Bank of England of 0.5 per cent, and the lowest rate that can be accessed by commercial banks under the FLS is even less at 0.25 per cent. Purchasing bonds in the Green Deal Finance Company at such low rates of interest could help unlock significant demand for building refurbishment which would create significant employment and re-skilling opportunities.

6. The implementation challenge: good governance

Independent central bankers tend to get very squeamish about expressing support for any particular government proposal... Tragedies have occurred, however, when [they] let worries about the perception that they are too close to the fiscal authority prevent them from doing something constructive in times of crisis... It is critical... that we do not get caught up in a 'You first, my friend', 'No, after you, my good sir', routine over who should make the first overture to whom... Even in places where relations between fiscal and monetary policymakers are constructive and not fraught by distrust, there is a tendency for joint efforts to fall between the cracks due to turf considerations and natural divisions of labour. We just have to be transparent about this, and we should get going.

Adam Posen, Monetary Policy Committee member, 2009-2012⁷⁸

The proposals set out in Section 5 represent practical options for more effective targeting of QE. We believe this enhanced monetary activism would better enable the Bank of England to deliver on both its primary aim of price stability *and* also the subsidiary aims of delivering on the Government's economic policy objectives.

However, targeted QE does raise important issues of governance and accountability. In this section we examine these issues and propose modifications to existing institutional arrangements that can meet these challenges.

6.1 Central bank independence and fiscal neutrality: myth and reality

The separation between monetary and fiscal policy and central bank independence over monetary policy has been held up as key reason behind the relatively benign economic conditions enjoyed by western economies in the 15 years prior to the financial crisis. By providing central banks with operational independence and a strong focus on price stability, the idea was that not only actual inflation, but also inflationary expectations would be 'anchored'. This would be beneficial for the economy since both companies and households would feel confident to plan investments well in to the future.

The financial crisis of 2007–2009 does not, astonishingly, seem to have led to much questioning of this division.¹⁷⁹ This is despite the fact that the crisis was largely the result of central banks failing to prevent the build-up of massive inflation in a key sector of economy: the housing market.¹⁸⁰ But this arrangement is not one with a long historical precedent.

6.1.1 A brief history of central banking

Whilst most people probably think of central banks as public institutions, for the majority of their history they have been privately owned. Most, however, were nationalised after the Great Depression and World War II as governments felt they needed more control over this power of money creation to rebuild their economies.¹⁸¹ In many countries, governments and central banks worked closely together to devise policies that led to high rates of growth and low unemployment.

Central bank remits in this period were wide. They included achieving GDP growth generally and growth in particular in industrial sectors, high employment, exchange rate targeting to promote exports and financial stability, as well as price stability.¹⁸² There were no turf wars between fiscal and monetary policy. Then in the 1970s, with high levels of inflation, concerns grew that central banks were not paying enough attention to price stability. By the 1990s, the idea of central bank operational independence had taken off. To maintain low levels of inflation and to anchor expectations about future (low) inflation, it was thought that central banks should become operationally independent from the government of the day. Not only that, but they should be given a very clear remit to focus on inflation targeting as their primary goal, above and beyond broader macroeconomic objectives.

For a lengthy period this policy seemed to work. It appeared possible to have historically low inflation and stable growth. The 'Great Moderation' came to an abrupt end with the worst financial crisis since the Great Depression in 2007–2009. Suddenly, the narrow focus on inflation and the independence of central banks had been called in to question.

6.1.2 The remit of the Bank of England

One reason that the Bank of England might be reluctant to engage in the kind of strategic QE policies we have discussed is that it might be perceived as being outside of its remit. What exactly is the Bank of England's remit?

The Bank of England is a public institution whose broad role, accordingly, is to serve the public interest. This was not always the case, since it was privately owned until 1946, when the Attlee government nationalised it.¹⁸³ The Bank of England Act of that year transferred the Bank of England's capital stock to the Treasury and brought the Bank 'under public control'.¹⁸⁴ The Bank of England is wholly owned by the Government but accountable to Parliament. Each year, it is required to submit its Report and Accounts to Parliament, via the Chancellor of the Exchequer. The 1946 Act also lays out how the Bank of England would relate to the Treasury and other banks. The Act states that:

The Treasury may from time to time give such directions to the Bank as, after consultations with the Governor of the Bank, they think necessary in the public interest.

And that:

The Bank, if they think it necessary in the public interest, may request information from and make recommendations to bankers, and may, if so authorised by the Treasury, issue directions to any banker for the purpose of securing that effect is given to any such request or recommendation:

Provided that:-

no such request or recommendation shall be made with respect to the affairs of any particular customer of a banker; and

before authorizing the issue of any such directions the Treasury shall give the banker concerned, or such person appears to them to represent him, an opportunity of making representations with respect thereto.

This remit is obviously quite wide. In theory, it gives the Treasury ultimate control over the Bank of England which in turn has a lot of power over commercial banks. However, the activity of the Bank of England has, over time, become quite narrowly focused on monetary policy with a clear separation between this and fiscal policy. What then is 'monetary policy'?

6.1.3 Defining monetary policy and its connection to fiscal policy

In the 1980s, under the influence of monetarism, central banks began to focus more narrowly on price stability, a feature that in Britain was politically popular following the rampant inflation of the 1970s. In 1992, this shift towards maintaining low inflation was formalised, with the Government giving the Bank a formal inflation target range of 1–4 per cent. Six years later, the Bank of England was given

operational independence in the setting of monetary policy, altering the target to 2.5 per cent,¹⁸⁵ and adding a clause to the end of the above statement in regard to the direction the Treasury could give to the bank: [*except in relation to monetary policy*].

The 1998 Act also set out more formally the bank's objectives, stating:

In relation to monetary policy, the objectives of the Bank of England shall be—

*(a) to maintain price stability, and (b) subject to that, to support the economic policy of Her Majesty's Government.*¹⁸⁶

The Government's economic policy objective is:¹⁸⁷

...to achieve strong, sustainable and balanced growth that is more evenly shared across the country and between industries. This objective recognises that over a number of years preceding the recent financial crisis, economic growth in the UK was driven by unsustainable levels of private sector debt and rising public sector debt. This pattern of unbalanced growth and excessive debt helped to create exceptional economic challenges in the UK.

The Government also handed over control of financial regulation to the independent Financial Services Authority (FSA). Following the financial crisis of 2007–2009, the Bank of England's remit has been significantly broadened. The 2009 Banking Act gave the Bank of England a statutory objective to protect and enhance the stability of the financial systems of the United Kingdom and the Court, consulting HM Treasury and on advice from the newly formed Financial Policy Committee (FPC), in determining the Bank's strategy in relation to that objective.¹⁸⁸

None of this, however, really tells us a lot about the monetary/fiscal policy divide. It would appear there is nothing in writing to guide policy in this area. Rather, we seem to be dependent on statements, mainly by the Bank of England, to understand the divide. The most comprehensive statement we could find in recent years was made by Mervyn King in a speech last October:¹⁸⁹

The role of the Bank of England is to create the right amount of money, neither too much, nor too little, to support sustainable growth at the target rate of inflation. We are not doing it at the behest of the Government to help finance its spending. It is the independence of the Bank that allows us to create money without raising doubts about our motives. But just as it is crucial that governments do not control the printing of money, so too the unelected central bank must not determine the levels of taxes and public spending.

Fiscal policy is a matter for elected governments. There has been some talk about the possibility that money created by the Bank could be used directly to finance additional government spending, or even that money could be given away. Abstracting from the colourful metaphor of 'helicopter money', such operations would combine monetary and fiscal policies.

There is no need to combine them because, as now, once the Bank has decided how much money should be created to meet the inflation target, the case for the Government to increase spending or cut taxes to counter a downturn stands or falls on its own merits... Not only is combining monetary and fiscal policies unnecessary, it is also dangerous. Either the government controls the process – which is 'bad' money creation – or the Bank controls it and enters the forbidden territory of fiscal policy.

This is a remarkable statement for a number of reasons. First, it implies that the Bank of England can actually determine, reasonably effectively, what the 'right amount of money' is in the economy. But the financial crisis – and indeed nearly all major twentieth-century banking crises – was the result of excessive money creation by the banking sector, as a number of studies show and as Adair Turner, former Chairman of the FSA has recently stated.^{190,191,192} If Mervyn King accepts this, then he must also accept that the Bank of England got its estimations of the

'right amount' of money in the economy completely wrong in the period leading up to the financial crisis.

The reality is that 97 per cent of the money in circulation is created by commercial banks and just 3 per cent by the central bank.¹⁹³ And deregulation between the 1970s and 2000s has meant that the Bank of England has chosen to have increasingly little, if any, control of over commercial bank credit creation (see also Box 1 on the money multiplier myth). Rather, 'banks make loans first and search for the reserves later' in the words of Federal Reserve Banker, Alan Holmes.¹⁹⁴ The central bank must always ensure there are sufficient reserves in the banking system or it will collapse, with catastrophic results for the economy.

Mervyn King terms 'bad money creation' a situation where the government of the day controls the process of money creation. One wonders, then, what the Governor would call the 370 per cent increase in mortgage credit created by the banking system in the period 1997–2007 that eventually contributed to the financial crisis. Presumably, this is 'good' money creation? Such a distinction purely on the basis of whether money creation is in public or private hands appears to us to be simply ideological rather than grounded in evidence.

If the Bank of England has virtually no control over the amount of money in circulation and where it is allocated, the argument for a strong divide between monetary and fiscal policy to ensure central bank 'independence' is undermined. Monetary policy, defined as control over the creation and allocation of money, would then appear to be entirely in the hands of commercial banks. The Bank's role is not to scrutinise or direct such activities, hence providing some element of democratic accountability, but to prop up this system by supporting such commercial banks (for the sake of the wider economy) by ensuring there is sufficient liquidity in the system.

There is then a very strong democratic and economic argument to say that current arrangements need reform. Furthermore, as this report has detailed in Sections 2 and 3, QE does favour certain sectors of the market economy over others. Buying government bonds would appear to increase asset prices and thus support (mainly large) UK private companies and that very concentrated part of the UK population that holds such assets. It is not clear why this kind of monetary policy is any more neutral than buying corporate bonds issued by agencies with a remit to invest in infrastructure or home-building or SMEs. Indeed, one might argue the onus is on the Bank of England to demonstrate why it has *not* bought assets to support these neglected sectors of the economy as to do so would surely more evenly balance out the fiscal impact of QE policies.

At one point during 2011, it did look as if the Treasury and the Bank of England were about to enact a policy – 'credit easing' – that would have supported the SME sector through Bank of England purchase of securitized SME loans.¹⁹⁵ Many were in favour of such an intervention, including former MPC member Charles Goodhart who makes the same point that such an intervention is not really any less or more 'fiscal' than existing QE:

This [credit easing] proposal, however, runs into the question whether such a mechanism should be regarded as primarily fiscal, and within the purview of the Ministry of Finance, rather than monetary. Such lending would both involve risk and involve intervention in markets to shift relative prices. Indeed so, but existing QE in whatever form involves risk, even if collateralized, and also shifts relative prices; that is, after all, largely the purpose of the exercise via portfolio effects.^{196,197}

6.1.4 The blurring of the monetary/fiscal policy dividing line

Recent developments suggest the ice may be melting on the monetary/fiscal policy divide. Most obviously, these are the addition to the Bank's remit of 'financial resilience' and the creation of the Financial Policy Committee (FPC). The FPC's job is to conduct 'macroprudential policy' which involves assessing system-wide risks to the resilience of the economy and which has powers of direction to intervene where it considers unsustainable risk is building up.

The FPC's powers include the ability to influence bank credit creation via making adjustments to the amount of capital banks must hold against assets, both in total and *by sector*. Specifically, the FPC will bring in to force Sectoral Capital Requirements (SCRs).¹⁹⁸ Thus if the FPC felt that excessive lending was being created for the real estate or domestic housing market, posing system risk to the economy, it could increase SCRs on these types of loans. It would also provide targeted incentives for banks to limit the expansion of riskier exposures. The list of indicators upon which the FPC can alter SCRs includes Bank leverage ratios, average mortgage risk-weights, balance sheet interconnectedness (with other banks), intra-financial borrowing growth, derivatives growth, overseas concentration, credit growth to household and commercial real estate, debt-to-profit/income ratios for companies, households and non-bank financial intermediaries, price-to-rent ratios, loan-to-value- and-income ratios, and spreads on corporate and mortgage lending.^{199,200}

Even if the objective of SCRs is financial system resilience rather than GDP growth, they appear to be a first step towards the Bank of England regaining the power to more directly control credit creation and allocation in the economy. Senior members of the FPC, including Andy Haldane, and former member Adair Turner have already questioned whether the FPC should also have explicit powers to encourage more bank lending to particular sectors, the SME sector in particular.^{201,202}

Rather than being a radical departure in to the dangerous land of credit allocation, if the Bank of England was to take up Haldane and Turner's proposal, it would simply be returning to what was quite standard practise in the post-war period. Then the Bank of England had its own (informal) qualitative and quantitative credit controls, known as 'moral suasion'. As reported in a review of monetary policy in the 1960s, this was effective in limiting the total amount of credit banks could create and set quotas for specific sectors, always according priority to export finance.^{203,204,205}

It should be noted that this period of credit guidance coincided with high rates of growth and employment in the UK and similar positive correlations have been observed in a range of other development and developing countries.^{206,207} In contrast, cross-country studies where central banks have focused strictly on inflation targeting and left credit creation and allocation to 'the market', suggest there is no positive effect on nominal GDP growth or employment.²⁰⁸

Other recent examples of fiscal/monetary 'blurring' include the decision by the Treasury to move the profits of the APF on to the Government's balance sheet (Section 3.4) and, to some extent at least, the FLS. Some commentators suggest the FLS involves the Bank of England taking risk of a particular type on to its balance sheet *without* indemnity from the Government, in contrast to the APF.^{209,210} When we sought clarification from the Bank of England on this point, it said that it is only at risk from the collateral the commercial banks post rather than the loans themselves.²¹¹ The Bank of England does not publish details of the specific collateral that banks post.

Either way, Mervyn King has admitted that the FLS involves the Bank of England favouring a particular sector of the economy because of a perceived 'market failure', although he is careful to imply that the Government ultimately made the decision to commence the scheme:²¹²

The question is why would we want to decide which assets should be purchased rather than the market itself? Now if you can detect an example – which we did with small and medium sized enterprises – where they are being particularly harshly treated, where there is particular market failure, then there is an argument for intervention. But that's an argument for giving a subsidy to that sector relative to the rest of the economy... That is something which the government should decide, not us...

Well, if there is a market failure in getting credit to SMEs, then there are surely also major 'market failures' in the areas of infrastructure and house-building, failures with major short-, medium- and long-term welfare costs to the UK economy. We would argue that there is equal justification for intervention in these sectors.

6.2 Governing strategic QE: the Monetary Allocation Committee

Rather than attempting to persuade the Bank of England to return uncomfortably to its broader remit of the 1960s, the Treasury might be better served focusing on creating an institutional framework that would enable QE to be directed to the real economy in a way that the Bank of England would be comfortable with. In any case, we argue that there is room for improvement in the decision-making process for the allocation of QE asset purchases.

Let us briefly examine the logic for restricting asset purchases to gilts. Any losses incurred by the APF are underwritten by the Treasury; the directors of the APF, it would appear, have sought to ensure that there is the minimum of credit risk attached to any asset purchases that they make (e.g. the corporate bonds the APF purchased were of investment grade only). However, there still remains significant market risk on the potential sale of any bonds that are not held to maturity. The Government might not default on the bond, but the APF might still have to sell it back to the market for less than it purchased it for, thereby incurring a capital loss. Furthermore, the Government always intended the APF to buy a broader range of assets, so who made the decision to only purchase gilts?

Let us first recall the current governance arrangements for the APF (Section 3.2). The MPC decides on the quantity of assets to be purchased. Who decides on the *type* of assets to be purchased? Not the MPC, it seems, as evidence from former member of the MPC, Adam Posen, to the Treasury Select Committee, suggests that MPC members were even blocked from discussing the purchase of a broader range of assets during MPC meetings.²¹³

The APF is structured as a limited company, the Bank of England Asset Purchase Facility Fund Limited, wholly owned by the Bank of England. It is the directors of the APF who decide on the allocation of purchases. There are two directors, Spencer Dale and Paul Fisher, both of whom are executives of the Bank of England and who directly report to the Deputy-Governor, Charlie Bean, who in turn reports to the Governor. It is this group of Directors that ultimately decides on how QE funds will be allocated. There are no independent non-executive directors,²¹⁴ and according to Posen, no oversight by or accountability to the MPC.

After stepping down as MPC member, Posen publicly criticised the Governor and others for ignoring his pleas for the Bank of England to use the APF to capitalise an SME-financing public bank. Posen is quoted by Reuters as stating:²¹⁵

The current and previous chancellor wanted to see strong monetary easing and wanted at least contemplated alternative asset purchases, but were unwilling to take on an independent central bank' [...] But an independent central bank isn't the same as one individual being able to block discussion.

We suggest that the transparency and oversight of asset allocation decisions can be improved. The Treasury should create an independent 'Monetary Allocation Committee' (MAC), with clear terms of reference and answerable to Parliament via the Treasury Select Committee, that could decide on the optimal allocation of asset purchases. This would include not only new QE, but also the reinvestment of some £100 billion of bonds maturing during the next five years. The MAC would direct the operations of the APF, effectively becoming the board of directors of the existing Bank of England Asset Purchase Facility Fund Limited.

The MAC would have a much broader macroeconomic remit than the Bank of England and might be best staffed by academic macroeconomists and industry leaders, in much the same way as the MPC. Their focus would be on the best use of QE money in terms of employment, regional imbalances, capital investment, supporting SMEs, spare capacity, exports and the trade balance, energy security, and carbon targets. The MAC would be expected to coordinate closely with the FPC and the MPC and could have non-executive members of each plus the Treasury on its board. The quantity and maturity structure of asset purchases would remain with the MPC with its focus on longer-term rates and inflation.

We propose that the remits of the MAC and the MPC might be complementary as set out in Box 7.

Box 7. Division of responsibilities between MPC and the MAC

MPC	MAC
Objectives: (1) to maintain price stability, and (2) subject to that, to support the Government's economic policy	Objectives: (1) to support the Government's economic policy (2) subject to the proviso that its actions should not endanger the goal of price stability
Decides on the quantity and maturity terms of central bank reserves loaned to the APF as part of monetary policy	Decides on the type of assets to be purchased by the APF to best meet economic policy goals
Takes the impact of MAC asset purchases into consideration (alongside all other macroeconomic data) in reviewing monetary policy at monthly meetings.	Manages the portfolio of assets to maintain sufficient liquidity to respond to MPC monetary policy decisions.

This is a clearer and more accountable separation of responsibilities than exists currently. However, one area that would require greater clarity is the terms of the loan from the Bank of England to the APF. One of the reasons for almost the entire portfolio of APF assets being invested in gilts is to maintain liquidity. In theory, the MPC might wish to rapidly tighten monetary policy and call in the loan of central bank reserves to the APF. However, in practice it would take years to sell £375 billion of gilts without severely disrupting markets, particularly bearing in mind the Government's on-going financing needs for new gilt issuance. This reality should be explicitly acknowledged, with a proportion of the loan being over longer terms, perhaps up to 10 years or longer, which can be used to support the Government's economic policy. A significant proportion of the APF's assets could continue to be in gilts to allow for the possibility of rapid tightening of policy through asset sales, but the experience of QE in the UK and other countries has shown that significant quantities of bonds are in practice held to maturity.

6.2.1 Use of intermediaries

Even though at arm's length from the Government, it is important that the MAC does not have the ability to explicitly choose certain projects or companies over others. As set out above in Section 5.2, the APF should act via intermediaries such as the BBB, the GIB, the Green Deal Finance Company or a newly established Housing Investment Bank. Preventing the MAC or the APF from engaging in 'picking winners' both ensures the correct division of responsibilities and isolates the MAC from any danger of political pressure to favour particular projects or companies.

The financial crisis has seen the creation of a variety of novel new institutions and interventions in the UK economy – including QE, FLS, the FPC, the Prudential Regulation Authority, the Financial Conduct Authority, and green and business investment banks. An MAC would not seem to be qualitatively different to these other innovations. The FLS itself is overseen by a joint operating board of the Treasury and the Bank, suggesting there are no great barriers to the two organisations working together to direct credit in those areas of the economy where it is most needed.²¹⁶

What is clear is that the new Governor of the Bank of England Mark Carney has plenty of room for manoeuvre should he wish to. George Osborne appears very open to further monetary activism and boosting GDP growth. In his last letter to the outgoing Governor, George Osborne set out a new remit for the Bank, stating:

Monetary activism has a vital role to play in the Government's economic strategy as the Government delivers on its commitment to fiscal consolidation. Given the on-going exceptional challenges facing the UK economy, it is possible the Committee may judge it necessary to deploy

*new unconventional policy instruments or approaches in future, including some of those deployed by other central banks in recent years. The remit clarifies that the development of new unconventional instruments should include consideration with Government of appropriate governance and accountability arrangements.*²¹⁷

6.3 But what about inflation?

Inflation is currently above its 2 per cent target level for the economy and has been for some time. So a major objection to the schemes suggested, as it has been for QE since it commenced, is that they would cause even higher inflation, eating in to already strained incomes and thus further dampening demand in the economy.

There are a number of responses here. First, the Bank of England itself does not consider inflation to be a problem for the present time. Indeed it remains much more fearful of deflation as is evidenced by keeping interest rates at 0.5 per cent and creating £375 billion of QE. Most research suggests that domestic inflation – i.e. pressures on prices driven by the cost of labour and goods and services produced here in the UK – remains low. Indeed, one reason for the slow recovery is the fact that median wages in the UK have been flat lining at under 2 per cent since the middle of 2010 (Figure 16). In a recent speech, MPC member Paul Fisher noted the remarkable acquiescence of British workers to such a huge relative fall in their incomes since the crisis.²¹⁸

Inflationary pressures are instead coming from imports (unsurprising given the 20 per cent decline in sterling since the crisis began), energy prices, and one-off policy changes such as rises in VAT and education fees.²¹⁹ It may also be the case that QE policies globally have contributed to *imported* inflation, particularly where investors have chosen to invest deposits in commodities and related derivatives, a dynamic that many suggest has raised prices in developing countries.²²⁰

Secondly, in our proposed arrangement, the MAC would have a very strict remit to only choose to invest QE purchases where there is clearly spare capacity in the UK economy. But at the present time, this does not look like a difficult challenge. The UK labour market continues to have significant spare capacity.²²¹ Therefore we contend that targeted QE should be less inflationary, and have less of an exchange rate impact, than the current non-targeted approach that relies partially on (asset price) inflation for its efficacy.

More generally, economic analysis tells us that there is a strong positive relationship between inflation and employment, whereby employees' stronger bargaining position in a tighter labour market will inevitably push up prices. However, recent research by the IMF suggests that the long-assumed link between employment and inflation may have broken down. In a study of 21 rich countries since the 1960s, the IMF shows that changes in unemployment now influence inflation much less than in the past.²²² Possible explanations include much more flexible labour markets and weaker trade unions and potentially the 'anchoring' of inflation expectations with independent central banks. Without the breakdown in this relationship, the IMF estimated the US economy would have faced deflation rates approaching 3 per cent in the wake of the recent recession.²²³ Whatever the explanation, concerns about inflation do not look like a credible objection to strategic QE.

Third, it is worth making a straightforward economic argument. If a loan funds the building of a house, or a railway or a broadband network, it is creating a productive asset. A productive asset creates value over many years, providing a continuous flow of increased products and services over time. Money spent on such an asset should thus be able to be absorbed in to the economy without creating inflation. Productivity levels in construction and infrastructure are generally higher than in the services sector. As Paul Fisher argued in the same speech, 'faster growth in the near-term might actually keep inflation down for a while especially as productivity growth picks up.'²²⁴

In contrast, if new money is created and spent on existing assets, such as existing houses, equities, bonds, or derivatives, this does not create any new flow of value – instead it is more likely to simply increase the price of the asset (i.e. asset-price

inflation). As far as we can see, QE so far has primarily resulted in the latter and the Bank has been able to largely ignore asset price inflation because this is simply not part of its measurement of inflation. The FPC has been introduced to make up for this gap in the Bank of England's regulatory framework. To help it along, we suggest now is the time to reduce the impact of QE on asset price inflation and concentrate public money on productive investment.

Finally, perhaps the most subtle part of monetary policy arrangements is the importance attached to maintaining *expectations* of low inflation. This is because a loss of confidence in the ability or desire of monetary authorities to maintain price stability can become a self-fulfilling prophecy. It is primarily on the grounds of the potential negative impacts on inflation expectations that, in its recent review of monetary policy frameworks,²²⁵ the Treasury rejected the option of 'Overt Money Financing' advocated by Lord Turner.²²⁶

We contend that Strategic QE should not cause an adverse change in inflationary expectations for two reasons:

1. The objective of targeting QE on real economy investment where spare capacity exists is intended to avoid generalised price inflation.
2. The proposed institutional arrangements do not weaken the MPC's independence or remit at all, and provide greater transparency by separating the control over the quantity central bank asset purchases from allocation decisions. It should therefore strengthen credibility overall.

Indeed, we suggest that concern about the impact of QE on inflationary expectations might be better addressed by efforts to educate the public and address some of the wilder media commentary about 'printing money'.

7. Conclusions

Credit is the pavement along which production travels, and the bankers if they knew their duty, would provide the transport facilities to just the extent that is required in order that the productive powers of the community can be employed at their full capacity.

John Maynard Keynes²²⁷

QE may have prevented a worse recession but it has not led to a recovery. The hope was that it would encourage investors to put their money into 'riskier' corporate equity and encourage savers and financial asset holders to spend more. But there is not much evidence that either of these 'wealth effects' has boosted investment and spending.

Our empirical evidence supports the thesis that expansion of credit specifically for the real economy (defined here as GDP transactions) is a more significant factor in explaining changes in GDP than so-called unconventional monetary policy instruments and conventional instruments, such as adjustments to interest rates. QE has been ineffective in stimulating such bank lending, and although perhaps too early to tell, the impact of the FLS looks similarly limited in the context of the banking sectors' on-going balance sheet retrenchment and long-term structural and regulatory bias against real economy lending. The Bank of England has never expected QE to have a significant impact on bank lending, and this expectation is supported both in theory and practice.

However, the evidence of positive impact on nominal GDP through the portfolio rebalancing channel is also unimpressive.

We have examined two alternatives for increasing the impact of QE:

1. Purchasing illiquid and riskier assets from existing banks to speed up their balance sheet reconstruction, as the US Federal Reserve has done with apparent success.
2. Funding agencies with a specific remit to invest in real economy activities, such as the BBB, the GIB, and housing construction by housing associations and local authorities.

Of these alternatives, we believe that the first option would be likely to have a greater impact on nominal GDP than current QE; however, cross-country comparisons can be misleading. The USA has a significant local banking sector, accounting for approximately a third of banking assets. It also has the Small Business Administration that supports lending to SMEs through loan guarantees. The UK currently lacks such a favourable infrastructure for business lending, and so the impact may be considerably less effective than in the USA.

Enabling banks to lend more will not be effective in stimulating investment, production, and employment if the lion's share of new credit goes into mortgages and lending to the financial sector.

We recommend the second option as providing a more direct and controllable channel to ensure that QE results in non-inflationary expansion of investment and employment. By structuring the provision of funding through the purchase of bonds in intermediaries, the current mechanism of QE remains essentially the same with the difference being the type of financial security being purchased. It also has the benefit of developing capital markets for investment in these sectors and leading potentially to 'crowding-in' private sector investors.

We recognise the validity of concerns about the process of decision-making, governance, and accountability for expanding QE beyond the narrow remit of gilt purchases.

However, we think that efforts to maintain a clear distinction between fiscal and monetary policy can be a red herring. In reality, such distinctions have always been blurred and have broken down further with the deployment of unconventional monetary policy since the crisis. The more important question is what institutional arrangements are best for preserving the integrity of each kind of decision. We believe that a separation of powers between the MPC, deciding the quantity of QE in line with its current remit, and a new Monetary Allocation Committee to decide how best to allocate QE to deliver against a broader set of goals, including investment and employment.

As shown by the case studies of the Canadian Industrial Development Bank and New Zealand's house-building programme, both funded by loans from the central bank, there are successful international historical precedents for these proposals. And in the UK itself, for close to 30 years after World War II it was standard practise for the Bank of England, in discussions with the Treasury, to directly influence bank credit creation according to broad macroeconomic objectives.

Any new institutional arrangements and policy measures involve a degree of risk, but since 2008 there has been a series of institutional and policy innovations and unconventional monetary policy measures. Indeed, the Chancellor has called for more monetary activism from the new Governor of the Bank of England and a stronger focus on growth. The greater risk to the economy would be posed by a failure to answer his call. The time is right for strategic QE.

Endnotes

- 1 This report focusses on how QE might be more effective in stimulating nominal GDP in a way that rebalances the British economy and creates jobs. This is not contradictory to the notion, argued elsewhere by nef among many others, that GDP is not an effective measure of social progress or quality of life. Neither is it an endorsement of resource optimism that presumes no constraints on economic growth. Indeed, we see policy tools that are able to improve the social and environmental quality of GDP as essential to meeting the challenges of resource scarcity.
- 2 Holmes, I. and Mabey, N. (2010) *Accelerating to the Transition to a Low Carbon Economy: The case for a Green Infrastructure bank* (London: E3G)
- 3 Speech given by Mervyn King, Governor of the Bank of England to the South Wales Chamber of Commerce at The Millennium Centre, Cardiff, 23 October 2012. Retrieved from www.bankofengland.co.uk/publications/documents/speeches/2012/speech613.pdf [accessed 2 May 2013].
- 4 Stiglitz, J. (1998). Central banking in a democratic society. *De Economist* 146, 199–226.
- 5 Ryan-Collins, J., Greenham, T., Werner, R. A., & Jackson, A., (2012). *Where does money come from? A guide to the UK monetary and banking system* (2nd edition). London: nef (the new economics foundation).
- 6 It is important to note that loans are being repaid all the time, and so if the gross amount of fresh loans is less than the amount of existing loans repaid, net lending will be negative. In other words, the total stock of outstanding loans will fall as will the total stock of bank deposits. The same dynamic occurs with purchases by banks of investment assets which will mature over time
- 7 In this report we will use the term 'real economy' to refer to transactions that are counted as part of GDP, in order to distinguish them from financial transactions which do not contribute to economic output. It is not intended to imply that social and economic relations that are not included in GDP accounting are unimportant.
- 8 It is also possible for them to reduce their lending without shrinking the money supply. If banks' customers repaid their debts and banks restored their asset side by buying seasoned securities, the level of deposits would be unchanged while debt went down. What happens to economic activity then depends on the spending intentions of those who sold securities to the banks and whether the repayment of loans came from forgone consumption or selling other assets
- 9 Ryan-Collins, J., Greenham, T., Werner, R. A., & Jackson, A. (2012). *Where does money come from? A guide to the UK monetary and banking system* (2nd edition), London: nef, pp 117–120.
- 10 For an examination of historical evidence and economic modelling of the positive impact of moving from bank to state money creation, see Kumhof, M., & Benes, J. (2012). *The Chicago Plan Revisited*. Washington DC: IMF.
- 11 For a contemporary proposal of how to enact such a reform on the UK see Jackson, D. & Dyson, B. (2012). *Modernising Money: Why our monetary system is broken and how it can be fixed*. London: Positive Money.
- 12 For more on 'crowding out' theory see Ryan-Collins, J., Greenham, T., Werner, R. A., & Jackson, A. (2012). *Where does money come from? A guide to the UK monetary and banking system* (2nd edition). London: nef, p. 126. The overall macro-economic impact of deficit financed government expenditure is a much contested topic
- 13 National Institute for Social and Economic Research.
- 14 The Telegraph, 'Loss of income caused by banks as bad as a 'world war', says BoE's Andrew Haldane'. Retrieved from <http://www.telegraph.co.uk/finance/financialcrisis/9719300/Loss-of-income-caused-by-banks-as-bad-as-a-world-war-says-BoEs-Andrew-Haldane.html> [accessed 30 April 2013].
- 15 *The Economist*. (2013). 'Just Better than nothing', 26 April.
- 16 Bank of England. (2013). Inflation Report. London: Bank of England, pp 26-30. Retrieved from <http://www.bankofengland.co.uk/publications/Pages/inflationreport/2013/ir1302.aspx>
- 17 Meadway, J. (2013). *Why we need a new macroeconomic strategy*. London: nef, p. 19.
- 18 *Wall Street Journal*. (2013). 'UK risks recession as output drops'. 12 March. Retrieved from <http://online.wsj.com/article/SB10001424127887323826704578355933415165920.html>
- 19 ONS. (no date). Data retrieved from <http://www.ons.gov.uk/ons/rel/gva/gross-domestic-product--preliminary-estimate/q1-2013/tsd-gdp-preliminary-estimate--q1-2013.html>
- 20 Comparisons with wartime austerity are mis-leading because at that time austerity meant forgoing consumption of other goods and services in favour of war expenditure or post-war reconstruction. Today the term is used differently to describe cutting government expenditure in an attempt to reduce government debt.
- 21 The 'Help to Buy' scheme allows people buying new homes up to a value of £600 000 can borrow 20 per cent of the value of their property interest-free for five years, in return for the Government taking a stake in the equity. The Chancellor also introduced a new 'mortgage guarantee' to help more people get a home loan without the need for a prohibitively large deposit.
- 22 Meadway, J. (2013). *Why we need a new macroeconomic strategy*. London: nef, p. 11.
- 23 Schularick, M. H., & Taylor, A. M. (2011). Credit Booms Gone Bust: Monetary Policy, Leverage Cycles, and Financial Crises, 1870-2008. *American Economic Review*, 102(2): 1029-61
- 24 Büyükkarabacak, B., & Valev, N. T. (2010). The role of household and business credit in banking crises. *Journal of Banking & Finance* 34(6), 1247-1256.
- 25 Büyükkarabacak, B., & Gumus, I. (2011). 'Credit Decomposition and Business Cycles.' Retrieved from www.eea-esem.com [accessed 8th May 2013]. This study shows that credit for both households and businesses is negatively correlated with the trade balance. However, the correlation between household credit and trade balance was -0.65, whereas it is only -0.12 for the business credit.
- 26 An earlier study of 18 emerging economies also found a strong negative correlation between household credit and the trade balance. Büyükkarabacak, B., & Krause, S. (2009). Studying the effects of household and firm credit on the trade balance: The composition of funds matters. *Economic Inquiry*, 47(4), 653-666

- 27 Meadway, J. (2013). *Why we need a New Macroeconomic Strategy*. London: nef. Retrieved from <http://www.neweconomics.org/publications/entry/why-we-need-a-new-macroeconomic-strategy>
- 28 For example, the Federation of Small Business publishes members surveys that regularly cite the availability and cost of finance as a barrier to growth. See <http://www.fsb.org.uk/News.aspx?loc=pressroom&rec=7801>
- 29 Werner, R. (2005). *New Paradigm in Macroeconomics*. Basingstoke: Palgrave Macmillan
- 30 As postulated by the Quantity Theory of Credit. See Werner, R. (1997). Towards a new monetary paradigm: a quantity theorem of disaggregated credit, with evidence from Japan. *Kredit und Kapital*, 30(2), 276–309.
- 31 For more detailed information on the above processes, see Ryan-Collins, J., Greenham, T., Werner, R. A., & Jackson, A. (2012). *Where does money come from?* (2nd edition), London: nef, ch. 4.
- 32 Bowdler, C., & Radia, A. (2012). Unconventional monetary policy: the assessment. *Oxford Review of Economic Policy*, 28(4), 603–621.
- 33 Werner, R.A. (2005). *New Paradigm in Macroeconomics*. Basingstoke: Palgrave Macmillan.
- 34 Werner, R. A., & Zhu, M. (2012). The relationship between interest rates and nominal GDP growth in the U.S., U.K., Germany and Japan from the 1960s to 2008. Paper presented at the International Conference on the Global Financial Crisis: European Financial Markets and Institutions, University of Southampton, Southampton Management School, held at Chilworth Manor House Hotel on 25-26 April 2013.
- 35 Lyonnet, V., & Werner, R.A. (2012). Lessons from the Bank of England on 'quantitative easing' and other 'unconventional' monetary policies. *International Review of Financial Analysis*. 25, 1–17.
- 36 The term QE had been proposed in 1994 and 1995 by Richard Werner to recommend a policy that would expand broad credit creation. The Bank of Japan is usually thought of as commencing QE on 19 March 2001, but it did not use the expression 'quantitative easing' in its official descriptions of its policy in March 2001, and its scheme differed in key respects to Werner's scheme of quantitative easing. In fact, Werner had predicted that mere reserve expansion would not work after banking crises – neither would interest rate reductions or fiscal policy that is not monetised. Lyonnet, V., & Werner, R.A. (2012). Lessons from the Bank of England on 'quantitative easing' and other 'unconventional' monetary policies. *International Review of Financial Analysis*. 25, 1-17.
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- 39 That said, if the Bank were to charge no interest on the loan and never asked for repayment the effect would be the same as permanent interest-free money creation.
- 40 Although it should be noted that the Bank of England is also wholly owned by the Government, or more accurately by the Treasury Solicitor on behalf of the Government. The Bank pays 50 per cent of its operating surpluses to the Treasury.
- 41 In testimony to the House of Commons Treasury Committee, Mervyn King stated that 'Alistair Darling was adamant that the Monetary Policy Committee not be given the authority to purchase corporate bonds, or any asset other than gilts. He was very clear about that, and that is set out in the letter. The decision on what corporate bonds we should buy was for the Bank and we should do it in a way that did not put taxpayers' money at risk.' Uncorrected oral evidence, Bank of England February 2012 Inflation Report. Retrieved from <http://www.publications.parliament.uk/pa/cm201012/cmselect/cmtreasy/uc1867/uc186701.htm> [accessed 29 May 2013].
- 42 Email response from the Bank of England Public Information and Enquiries Group, 10th June 2013.
- 43 Letter from the Governor of the Bank of England to Alistair Darling, Chancellor of the Exchequer, 17 February 2009
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Glossary

Bank deposits:	Bank deposits, either held in current (sight) and no-notice savings accounts or in savings accounts with fixed-term notice periods. The word 'deposit' is conventional but misleading in the ordinary English use of the term. These balances are a liability of the bank, in other words simply an electronic IOU to the customer from the bank. The customer is given a guarantee that the bank will honour this IOU up to £85 000 under the Financial Services Compensation Scheme.
Base rate:	The main interest rate set by the Bank of England's Monetary Policy Committee, which reviews it on a monthly basis. Also known as the Bank Rate or Policy Rate, it is the rate at which the Bank of England will lend funds overnight to commercial banks. Currently it is also the rate of interest paid on commercial banks' reserves held at the Bank of England.
Capital markets:	Markets for tradable financial instruments including shares (equity), bonds (debt instruments), commodities, and financial derivatives.
Central bank:	The central bank acts as the bank for commercial banks . It performs the function of lender of last resort and generally is tasked with carrying out monetary policy . Some central banks are also responsible for regulation of financial firms. The UK's central bank is the Bank of England.
Central bank reserves:	The balances held at the Bank of England by commercial banks , effectively equivalent to current accounts for commercial banks . They are the ultimate means of payment between banks. This form of money cannot be held directly by ordinary households and business, or indeed by financial institutions, such as credit unions, that do not have reserve accounts at the Bank of England.
Collateral:	Assets that are offered as security to the lender by a borrower. Ownership of the assets remains with the borrower unless he defaults on repayment of the loan, in which case the lender has the legal right to seize the asset. The most familiar example for most people is a mortgage for which the house is collateral for the mortgage company.
Commercial banks:	All licensed deposit-taking institutions (i.e. banks) that are not central banks , including shareholder-owned, mutual, and publically owned banks.
Coupon rate:	The amount of interest paid every year on a bond, in relation to the face value of the bond. As bonds are traded on financial markets, investors can purchase them for a price that is more or less than face value, and thus the actual return received by the investor will be different to the coupon rate (see Yield to maturity)
Financial Policy Committee (FPC):	The FPC is a committee at the Bank of England whose primary objective is the stability of the UK financial system. Created in April 2013, it seeks to monitor and identify sources of excessive systemic financial risk and take action to reduce it.
Fiscal policy:	Usually defined as the use of government spending and taxation to influence the economy.
Funding for lending scheme (FLS):	See Section 3.4.
GDP-related transactions:	Also referred to as real economy transactions, these are financial transactions that are recorded as part of GDP. Not all bank loans are considered GDP transactions, for example, lending between financial institutions or for the purchase of existing financial assets are excluded because they do not create additional economic output.

Gilts:	The name given to UK Government bonds (tradable debt instruments), distinguishing them from bonds issued by other institutions such as corporations.
Government bonds:	See Gilts .
Gross Fixed Capital Formation:	Includes land improvements (fences, ditches, drains, and so on); plant, machinery, and equipment purchases; and the construction of roads, railways, and the like, including schools, offices, hospitals, private residential dwellings, and commercial and industrial buildings.
Monetary policy:	Usually defined as the manipulation of interest rates, or other means of influencing the supply of money, in order to influence the economy.
Monetary Policy Committee (MPC):	The committee at the Bank of England whose primary objective is to achieve price stability by means of manipulating the Base rate, and other interventions in the banking system.
Official bank rate	See Base rate .
Open market operations (OMOs):	See definition on page 10.
Private non-financial corporation (PNFC):	Businesses that are owned privately, including those whose shares are traded on public stock exchanges, and are not financial institutions. In other words they are companies that produce goods and/or provide non-financial services.
Real economy:	The part of the economy that is concerned with producing goods and services, as opposed to the part of the economy that is concerned with buying and selling financial assets.
Repurchase agreement (repo):	See definition on page 10.
Reverse repurchase agreement (reverse repo):	See definition on page 10.
Special Liquidity Scheme (SLS):	See definition on page 12.
Treasury bills (T-bills):	Gilts that have a maturity of up to 12 months. They are 'zero coupon'; in other words no interest payments are made on them. Instead they are sold at a discount to their face value, with the discount representing the financial return to the buyer. The discount is determined through a competitive bidding process where buyers state what price they would be willing to pay for the bills.
Yield to maturity:	The overall rate of return received by a purchaser of a bond. It includes all the regular interest (or coupon) payments plus the repayment of the principal, or face value of the bond, upon maturity.

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