Centre for Banking, Finance and Sustainable Development

UNIVERSITY OF Southampton
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MP & Banking Expert Call For Change to BoE Policy

Replace Bond Purchases with Solar PV Purchases—SUMMARY

As the Bank of England moves closer towards announcing an unprecedented third round of 'Quantitative Easing', experts are calling for this newly created money to be used more productively and effectively to achieve key social and environmental objectives. During the last round of Quantitative Easing ('QE') the Bank of England purchased £275bn worth of government bonds with money it newly created. As the Bank of England prepares the ground to inject a likely £50bn to £75bn into the economy, the UK's Green Party MP, Caroline Lucas, and Southampton University banking expert Professor Richard Werner, are calling for this money injection to be used for green projects that directly improve the environment and long-term quality of life, while creating many new jobs. Said Professor Richard A. Werner, Director of the Centre for Banking, Finance and Sustainable Development at the University of Southampton: "Many people would like money creation to be used to help the wider economy directly and to implement some badly needed green projects that would enhance the sustainability of the economy and improve the environment—as well as create new jobs." Green MP Caroline Lucas said: "I warmly welcome this important contribution to the debate. Professor Werner shows that it is possible for Green QE to be used to promote environmental protection, to stabilise the economy, and to create hundreds of thousands of jobs. Investment in solar PV and energy efficiency, for example, would reduce fuel poverty, cut climate emissions, and get many people back to work." Professor Werner and the Green New Deal Group, of which Caroline Lucas is a Member, pointed out that money creation is a public privilege—so using it to benefit the public and the environment seems only right. They argued that instead of giving money to banks who fail to lend it on, the central bank could pay for billions worth of photovoltaic and energy-efficiency installations across the country. This would reduce electricity costs, create jobs and get the UK ahead in its plans to cut carbon emissions.

> **"Many would like money creation to be used to help the wider economy and environment."**

Inside this issue:

Q: How does QE work? Why do we need a third round? Why inject the money only into the banks?

A: QE aims to expand the amount of money circulating in the economy. There are better ways than the current implementation of the policy. Giving the money to banks is not enough. We now need 'Green QE' to create jobs and the wider economy.

The Bank of Japan and the Bank of England have adopted a policy they call 'Quantitative Easing'. But they have focused on giving more reserves to banks in the hope that they will lend more money to the economy. They do this, because they know that most of the money in the economy is not created by the central bank but the commercial banks ('credit creation').

The Centre argues that while efforts to boost bank lending should be stepped up, the Bank of England can kick-start the process and implement true quantitative easing by boosting its own credit creation and injecting money directly into the wider economy. The most efficient and sustainable way of doing so is via a policy of Green QE, whereby the BoE buys green assets that enhance the environment and reduce the carbon footprint.

Time for Green Quantitative Easing FULL REPORT

How to Generate Green, Sustainable Growth at No Cost

By Richard Werner, Professor of International Banking

At the Bank of England's January MPC meeting, several members supported further measures to boost the economy, suggesting that the Bank of England could well announce this week a third round of what it has called 'quantitative easing', following from the £200 billion of money injected in 2009 and the £75billion last year. If it does so, many observers will wonder whether this is because quantitative easing has been successful. They will also wonder how quantitative easing is supposed to work, and whether there aren't better ways to spend our money and kick-start the economy.

In 2009, soon after quantitative easing was first announced, the Bank of England in a brochure entitled "putting more money into our economy to boost spending", the Bank of England explained the policy as follows: "The Bank creates money and uses it to buy assets such as government bonds and high-quality debt from private companies…. resulting in more money in the wider econo-

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It's Time for 'Green QE'… (cont'd from p. 1)

"The government's attempts at getting banks to increase lending to small firms have not been successful."

my".

How exactly does this increased money enter the economy and how does it boost spending? According to the Bank of England "Banks end up with more reserves as well as the money deposited with them. Increased reserves mean banks can increase their lending to households and businesses, making it easier to finance spending."

Thus the transmission of this policy is said to take place mainly via the banking system. By this token, we can measure the success of quantitative easing by examining bank credit growth. A broad measure, so-called M4 Lending, contracted by between 3% and 4% on a year-on-year basis in the last quarter of 2011 – the worst performance on record. Over the past year, bank lending has stagnated and especially bank lending to small and medium-sized enterprises has contracted. Money supply M4 has also decelerated sharply. Thus it would seem that neither QE nor 'Project Merlin', the government's attempt at getting banks to increase lending to small firms, have been successful.

This should not come as a big surprise. Until 2007, bank regulators (the Bank of England, the FSA and the Treasury) stood by as banks increased lending rapidly, without much consideration for whether the money was used for sustainable, productive purposes (ensuring that loans remain performing) or whether it was used for asset market speculation. If left to their own devices, in good times banks find it more attractive to lend for speculation, which generates larger and faster profits while requiring less work and analysis by the bankers. Thus bank credit for asset and financial transactions ballooned.

This created the property and asset bubble that ultimately brought down many UK banks. When the bubble burst, banks started to suffer from non-performing loans and exposure to worthless 'toxic waste' type of assets. Hence banks became suspicious about lending to each other. The drying up of wholesale funds pushed several banks over the edge and is a problem that has not been fully resolved.

Consequently, the banks have since 2008 been far more risk-averse than in prior years. Under such circumstances, bankers tend to cut back particularly lending to small firms – since considered individually, they each are riskier than a larger firm in the same industry. Taken together however a diversified portfolio of small firms should be a safer bet, as they tend to invest in producing new

"The Japanese failure of QE holds lessons for the UK. Banks say there is no loan demand. Small firms would like to obtain credit."

goods and services, not financial speculation. But this argument does not sway individual loan officers or, rather, the automated credit scoring systems installed by Britain's five banks, which neglect the systemic implications of collective bank behaviour. Thus banks have cut back lending to small firms.

Meanwhile, the bankers proclaim that they would like to increase lending to 'creditworthy' borrowers—in the view of the banks basically the large firms. But these don't need the money and in any case are not dependent on banks for funding. So bank credit growth has stagnated and last year turned negative, meaning that banks are on a net basis withdrawing money from the economy. This problem is not helped by the ill-timed attempts by regulators to require banks to raise more capital or meet other regulatory requirements that make it harder or less attractive for them to lend.

Proposals to tighten bank regulation are worthwhile, as long as they are well-timed: before a credit-fuelled asset bubble and subsequent banking bust happens. Sadly, in the last thirty years regulators and governments have persistently chosen to tighten the rules on bank credit *after* they have allowed such disasters to happen, and just when bank credit was already contracting.

As a result, we find today that banks carry excess reserves and often also excess capital. In other words, they are lending far less than they could presently lend, given their reserves and capital.

Enter 'quantitative easing' (QE). As the Bank of England explains, it has been implementing it in order to give more money to banks in the hope that they will extend more credit to the economy. Since banks already are lending far less than they could, and are sitting on excess money, such QE won't boost bank lending. It can to some extent monetise government spending, but remains modest in size for this purpose. This has been my long-standing criticism of the Bank of Japan's policies during the 1990s.

The Lessons from Japan

The Japanese failure holds lessons for the UK, not least because the Bank of England chose to model its policy on Japan's 'quantitative easing'. For almost an entire decade after the Japanese speculative bubble had burst in 1990, the Japanese central bank maintained that it could not do anything to stimulate the economy but lower interest rates. This, I had warned earlier, would not work as banks were burdened with bad debts and risk-adverse. The Bank of Japan repeated the banks' justification that there was no demand for bank loans among firms—the large ones. So bank credit growth dropped to zero and for years even shrank.

On 19 March 2001 the Japanese central bank, having presided over a decade of sub-standard growth (Japan's first 'lost decade' of the 1990s), announced that it would solve the problem of stagnating bank credit growth by creating new money and providing it in vast quantities to the Japanese banks. These already had large excess reserves before this policy was implemented–

It's Time for 'Green QE'... (cont'd from p. 2)

much later dubbed 'QE' by the Bank of Japan.

So the policy to increase banks' reserves in their accounts with the central bank, predictably, had little effect. Bank credit continued to stagnate for another decade, and today continues to record close to zero growth. Japan has now entered the third decade of economic stagnation, as central bank policy failed to kick-start bank credit growth and the money supply.

Most observers who think about 'quantitative easing' immediately grasp the basic premise, namely that an increased money supply in the economy should stimulate demand. They are, however, often surprised by central banks' insistence that any newly created money is injected mainly by giving it to the banks – especially when banks had demonstrated in prior years that they are not good at allocating money to productive and useful purposes or in a sustainable way. Why, they often wonder, not inject the new money directly into the economy, and make sure it is spent in a socially useful way that is considered desirable by the majority?

There is a historical reason for central banks' preference to hand money to banks and not inject it directly. Tangible paper money in circulation, which is issued by the central bank, accounts for only 3% of the money supply in the UK – and a similar proportion in most industrialised economies. So who creates and allocates the remaining 97%? Since the majority of the population believes the money supply to be created and allocated by the central bank or the government, it often comes as a surprise to observers to find that *it is profit-oriented enterprises that have a licence to create the money supply*.

You guessed it: these are the commercial banks. They do this through the process of extending credit – what is commonly referred to as 'lending' by banks. As it turns out, there is no such thing as a 'bank loan', since when a bank extends credit, it pretends the borrower had deposited with it the amount of the loan, by simply entering the relevant number into the borrower's account. This adds new deposits to the money supply, and this is how almost all money is created 'out of nothing' by the banks.* Hence the conventional thinking among central bankers that any new money that the central bank wishes to inject in order to stimulate the economy should be given to the banks.

But this does not make much sense at a time when banks are risk-averse due to actual or perceived non-performing loans, and bank credit growth is already stagnating. Banks currently are vastly 'underloaned', i.e. they could lend far more money than they are actually doing, given their reserves and capital. Adding to their reserves and capital thus is not likely to persuade them to create more credit.

Credit creation for productive purposes increases demand without stirring inflation.

Bypassing the Moribund Banks

I have proposed two ways to get round this problem. One boosts bank credit directly (available as a discussion paper of this Centre, CBFSD 2010) and the other circumvents the moribund banking system entirely. Here I would like to discuss the latter: It seems obvious that in such times and circumstances the central bank and the government have a duty to expand the money supply, by injecting money directly into the economy, without relying on the banks. This is in any case how most observers and indeed many politicians think 'quantitative easing' is supposed to work. How can this be done in practice? In the words of the Bank of England's pamphlet on QE, the standard way for a central bank to get new money into circulation is to 'create money and use it to buy assets…'.

In practice, conservative central bankers have focused on government bonds and other financial securities held by banks. But to the extent that they buy them from the banks, the banks are merely exchanging one asset for another, and all QE is doing is to help banks increase the liquidity of their portfolios by getting rid of longer-dated and slightly less liquid assets and raising cash.

How can the central bank inject money without it getting stuck in the bottle neck that currently passes as our banking system? As I already suggested in 1994 to the Bank of Japan, a central bank could start by expanding the range of assets it purchases. I pointed out at the time that Tokyo, where the Bank of Japan is situated, has the lowest ratio of park space per inhabitant of all major cities in the world. At the same time property prices had dropped by 80% and banks, as elsewhere using land as collateral, were more or less bust.

So why should the Bank of Japan not simply create money and purchase Tokyo land on the market, and then proceed to create public parks on the land? The policy would serve to inject new money into the economy without it getting stuck in the banking system, and thus would increase domestic demand by the same amount as the money creation. At the same time, those 'BoJ parks' would enhance the quality of life, improve air quality, reduce Tokyo's carbon footprint and revive the property market, while also boosting the banking system. The equivalent of a £275 bn injection of new money, as already has happened in the UK, if done the right way could create hundreds of thousands of jobs and improve the environment. This was my first 'Green QE' proposal.

"The actual process of money creation takes place primarily in banks." (Federal Reserve)

It's Time for 'Green QE'... (cont'd from p. 3)

And 'quantitative easing' it was, as I explain in the box below. It could not lead to inflation, since without it credit creation was shrinking—leading to deflationary pressure. Moreover, inflation is not possible if care is taken that QE finances productive investments. Among the most productive investments are those in human resources, such as university education and research, and green, sustainable infrastructure or energy.

The Bank of England has proven far less ideological, far more open to rational argument and also far quicker in implementing new policies than the Japanese central bank. So it is now time to discuss the purchase of other assets by the Bank of England, not just bonds from banks. It is possible for the Treasury to designate 'green bonds' for particular projects. The Bank of England is under current laws not allowed to buy them directly however. So why can the Bank of England not purchase 'green' assets that we all agree would not only enhance the economy but also boost the environmental sustainability of our economic activity? The government's Department of Energy and Climate Change late last year announced that over £200 billion worth of energy infrastructure investment was needed within less than 8 years. The Bank of England could fund those and give Britain a head-start by implementing some of them in the coming years.

Green QE: Fund £70bn of PV & Energy Efficiency to Create over 200,000 jobs

Together with the Green New Deal Group we would like to propose the following initial programme of Green QE expenditure.

Solar PV**

In the last year before the government changed the feed-in tariffs, around 150,000 photo voltaic (PV) systems were fitted on the country's roofs by an industry employing around 30,000 people, of which about 20,000 were actual installers. To put solar PV on the three million homes best suited to capture the maximum amount of solar energy (suitable South-facing roofs), would cost about £15-£20bn at today's prices. If this was extended to those able to capture adequate quantities of energy, i.e. suitable East and West facing roofs, a further six million homes would be involved with the cost of doing all nine million homes in the order of £50-£55 billion.

If the Bank of England were to use green quantitative easing to pay for these PV installations, the households involved would save up to £250 per annum in reduced electricity bills, as they benefit from free solar electricity generated and earn money for feeding

BOX: Why I Proposed the Concept of 'Quantitative Easing' in the 1990s

By Richard A. Werner

For my media campaign to get the Bank of Japan to abandon its doomed policy of focusing on interest rate reductions—begun in 1991–and to encourage it to increase total credit creation in the system I decided to use a new expression that would avoid the too-technical term 'credit creation' (at the time hardly used in Japanese). I was looking for an expression that suggested monetary stimulation, and at the same time made clear at the outset that I was not talking about interest rate reductions, but an increase in the quantity of money circulating. Yet I did not want this policy to get confused with the monetarist prescription to boost the monetary aggregates M0, M1, M3, M4 or the like – all of which I thought would also be doomed (indeed, M0 consists of bank reserves and in the event became the focus of the Bank of Japan and to some extent also the Bank of England; yet ballooning M0 in Japan did nothing to boost broad money supply or bank credit, as I had warned).

Hence I chose a combination of the standard expression for 'expansionary monetary policy' (which the Japanese refer to as 'monetary easing' or only 'easing') and the word 'quantitative'. Thus my original definition of 'quantitative easing' was an expansion in **broad credit creation**, which can be achieved in a variety of ways – I published a major article on this new policy, with 'quantitative easing' in the title, in Japan's main financial daily newspaper, the Nikkei, on 2 September 1995. I assumed that this expression would instantly make it clear that I was not talking about reserve or traditional money supply expansion – why use a new expression for an old policy?

Having argued for much of the 1990s that my arguments were wrong, and claiming repeatedly that 'quantitative easing' could not work, the Bank of Japan started the second decade of recession by announcing that it was, after all, now going to attempt a policy named 'quantitative easing' (retrospectively dating the beginning of the policy to March 2001). But actually all it did was to boost bank reserves. Reserve expansion is a standard monetarist policy and required no new label. And sure enough, as I had warned in the early 1990s, it did not do the economy any good.

** Figures from Solarcentury

It's Time for 'Green QE'… (cont'd from p. 4)

electricity into the grid.

A 3 million homes programme operating at the pace of a million properties per year being fitted with PV, would likely generate around 140,000 new jobs. If that were to be extended to all the potential 9 million homes that could benefit from PV installation, the employment growth would be much larger.

It is possible for the BoE to do this for free– after all, why should the BoE charge, since it created the money out of nothing in the first place? Money creation is a public privilege. So using it to benefit the public and the environment seems only right.

Kick-starting the Government's Green Deal

On top of funding large-scale solar PV, Green QE could also be used to finance the government's incoming £16 billion Green Deal energy efficiency programme for homes. The government expects this to support at least 65,000 jobs in insulation and construction by 2015. Local authorities, many of whom are already involved in planning to make tens of thousands more local homes energy efficient, could access a QE Green Deal fund to finance such programmes. A traditional approach would be for users to pay a small charge. Householders, who would be expected to save more than their repayments, could be charged a low or zero rate of interest and would repay over an agreed programme of up to 25 years. Once enough of them were making these payments, then these cash flows could be securitized into instruments that could be held by the Bank of England or sold to pension funds.

Why BoE Independence Would Not be Affected

Critics are quick to point out that such proposals are not practical, as the Bank of England wishes to purchase 'neutral' government bonds, and does not wish to be seen to engage in any form of allocation policy (what central bankers are quick to label as 'fiscal policy') that would suggest it is giving preference to one project over another.

There are two responses to this: Firstly, if one wishes to, this could still be arranged so that the Bank of England is purchasing mere securities. For instance, a new entity could be created that implements the nationwide PV

installation programme (and nationwide broadband for good measure) and owns the assets. It could issue equity, which could be guaranteed against default by the government (at no cost). The Bank of England could then purchase these securities. (Even the conservative Bank of Japan has taken to buying modest amounts of corporate equity, though not green and not guaranteed against default).

It is also possible to do this via a new green fund or bank (such

"Money creation is a public privilege. So using it to benefit the public and environment seems only right."

as a green investment bank) or designated 'green bonds'. But such methods feed more bureaucracies and fee-charging intermediaries, as well as in the case of bonds or a bank add to debt and interest liabilities.

Secondly, there is strictly speaking no need to arrange the transaction via securities. This would save on fees for the inefficient intermediaries – the securities underwriters and brokers. There is no need to create the incorrect appearance that central banks do not make allocation decisions.

The fact is, the core instrument in central banking has for centuries been the re-discounting of bills of trade issued by private sector firms. 'QE' the way the Bank of Japan and Bank of England have interpreted it were never new policies, since central banks have always been engaged in buying (and selling) assets – they merely chose to do this quietly, and without public debate. They have also always made allocation decisions in doing so. For instance, for most of their history, central banks drew up lists of firms, and maximum amounts allocated to them, whose bills of trade they would accept. Some firms were not chosen. Others received large maximum amounts. This always amounted to an allocation policy. A modern version uses other securities, such as commercial paper (CPs) issued by firms and various types of bills and bonds, which central banks regularly buy (or refuse to, as the case may be). It is also often forgotten that central banks create the money they use to pay for their own salaries, pensions or purchase recreation facilities (yachts, golf courses, restaurants, etc.). Since they frequently make these allocation decisions, why should there not also be a public debate about how newly created money from the QE programmes is spent for the public good?

No Need to Sell Assets Later

Other critics worry about the need to 'unwind' QE and how the Bank of England can sell any assets later on. In terms of the economics there is no need to worry about this: the central bank can simply keep the assets on its balance sheet. This is indeed the most effective way to solve any banking crisis: instead of getting the government, and hence the tax payer, to purchase non-performing assets or acquire the capital of entire banks, the central bank should do it directly. As it has the power to create money, and as this is just an

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"Since central banks make these allocation decisions, why should there not be a public debate about how newly created money from the QE programmes is spent for the public good?"

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The Centre conducts research on the link between the financial sector and economic growth and development. It collaborates with the School of Social Sciences, Division of Economics, and is the world's first research centre to focus on the sustainability aspects of banking and development. The Centre was founded by Professor Richard Werner, D.Phil. (Oxon), Chair of International Banking at the School of Management, in 2008.

For more information about the Centre, please look up www.southampton.ac.uk/cbfsd
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accounting exercise to shore up bank balance sheets, there is no need for tax payers to pay or to expand public debt. The assets should simply stay on the central bank balance sheet.

When the Bank of England wanted to bail out the bust banking system in August 1914 – bust due to Britain's declaration of war on Germany and its allies, while British banks were holding vast amounts of their bills of trade – the Bank of England purchased them from the banks and forgot about them. It works every time and does not cost anything – and thus also does not require the painful spending cuts that Britain has had to endure due to the government's far more expensive involvement in helping the banks.

There are clear advantages of a 'green QE' policy over alternatives. Firstly, it would circumvent the banking system and ensure that the newly created money is directly creating new demand in the economy.

Secondly, it would ensure that the injected money is not used for speculative or financial transactions which do not contribute to GDP and indeed have been the main reason why the banking crisis developed in the first place.

Thirdly, it would ensure that the money does not end up in oversized city bonuses.

Fourthly, it would make central bank money injections more transparent and easier to understand for the public.

Fifthly, it would inject money in a way that would benefit the environment and hence would be the most sustainable way to boost domestic demand. Finally, it would accelerate the implementation of key government policies to enhance the environment and reduce the carbon footprint.

The Green MP and the Green New Deal Group

Caroline Lucas is the MP for Brighton Pavillion and the leader of the Green Party of England and Wales. In 1999, she was elected as one of the Party's first MEPs and represented the South East until 2010, when she became the UK's first Green MP.

Caroline is a Co-Chair of the All Party Parliamentary Group on Fuel Poverty and Energy Efficiency and a member of the Environmental Audit Committee. She has been voted the UK's most ethical politician three times by readers of the Observer, awarded 'Newcomer of the Year 2010' in the Spectator Parliamentarian awards, and named 'Most Influential MP of the Year 2011' by the Political Studies Association.

Caroline Lucas, Green Party MP

Ms Lucas is member of the Green New Deal Group, along with Larry Elliott, Colin Hines, Tony Juniper, Jeremy Leggett, Richard Murphy, Ann Pettifor, Susie Parsons, Ruth Potts and Andrew Simms as members.

The Green New Deal Group has called for the allocation of large-scale capital to reduce carbon and increase energy security.

It has proposed to expand the BoE's operations to include green investments.

(www.greennewdealgroup.org)

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