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# SOVEREIGN MONEY

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PAVING THE WAY FOR A SUSTAINABLE RECOVERY

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# Contents

<b>Executive Summary</b>	<b>4</b>
<b>Part 1: An introduction to Sovereign Money Creation</b>	<b>7</b>
<b>Introduction</b>	<b>7</b>
<i>The financial crisis</i>	7
<i>The post-crisis recession and recovery</i>	9
<b>Policy responses to the recession</b>	<b>10</b>
<i>Conventional monetary policy: interest rates</i>	11
<i>Unconventional monetary policy</i>	11
<i>Why monetary policy was ineffective in boosting the economy</i>	13
<i>Fiscal policy</i>	14
<i>Summary: The policy dilemma</i>	14
<b>Prospects for a sustainable recovery</b>	<b>15</b>
<b>An alternative policy: Sovereign Money Creation</b>	<b>16</b>
<i>A step-by-step procedure for Sovereign Money Creation</i>	18
<b>Using Sovereign Money Creation during downturns</b>	<b>19</b>
<b>Using Sovereign Money Creation as a conventional policy tool</b>	<b>23</b>
<i>Benefits of Sovereign Money Creation as a conventional policy tool</i>	29
<i>Central bank targets when Sovereign Money Creation is used as a conventional tool</i>	30
<b>Conclusion</b>	<b>30</b>
<b>Part 2: Sovereign Money Creation in detail</b>	<b>32</b>
<b>How sovereign money could be distributed</b>	<b>32</b>
<b>Technical aspects of Sovereign Money Creation</b>	<b>36</b>
<i>Setting interest rates under SMC</i>	38
<b>Appendices</b>	<b>44</b>
<b>Appendix 1 - Concerns over Sovereign Money Creation</b>	<b>44</b>
<b>Appendix 2 - Academic Support for Sovereign Money Creation</b>	<b>45</b>
<b>Appendix 3 - Historical examples of Sovereign Money Creation and fiscal-monetary cooperation</b>	<b>49</b>
<b>Endnotes</b>	<b>52</b>
<b>Bibliography</b>	<b>59</b>

# Executive Summary

## OVERVIEW

The financial crisis of 2007-08 occurred because of a massive increase in private sector debt relative to income in the two decades prior to 2008. In the UK, the debts of the non-financial sector increased from just under 94% of GDP in 1988 to just over 200% of GDP by 2007. Since the crisis the level of private debt in the UK economy has only fallen marginally, yet government policy revolves around 'getting banks lending again' and consequently increasing private debt.

Hangovers from private debt-fuelled booms are serious, yet, as Adair Turner puts it, the government is engaging in a 'hair of the dog' strategy for economic recovery, treating the cause of the financial crisis – excessive borrowing for unproductive purposes – as though it could also be the solution. With the private sector's debt-to-income ratio at a historically high level, and set to rise further as a result of government policy encouraging easier lending by banks, the current economic recovery is unlikely to be sustainable. Increasing private sector debt is only sustainable if it also leads to an increase in economic output. Given that much of the recent lending has been for mortgages, this is unlikely to be the case.

## DETAILED SUMMARY

### **Excessive private debt as the cause of the financial crisis**

We argue that the financial crisis occurred as a result of unconstrained bank lending to the property and financial markets, which led to a large increase in asset prices and the economy's (the private sectors) debt-to-GDP ratio. Although asset prices collapsed during the crisis, the debts incurred in their purchase remained, leaving the economy in a 'balance sheet' recession. Following the crisis the private sector – households and businesses – stopped borrowing and attempted to pay down their debts. But any attempt by the private sector to repay its debts leads to lower spending and

There is therefore a need for an alternative strategy to create a sustainable economic recovery, one that increases incomes in the private sector, without the need for an increase in private debts. This paper provides that alternative, which we term Sovereign Money Creation (SMC). In a similar way to Quantitative Easing, SMC relies on the state creating money and putting it into the economy. But whereas QE relied on purchasing pre-existing financial assets and hoping that some of this money would 'trickle down' to the real economy, SMC works by injecting new money directly into the real economy. Consequently, pound for pound SMC will be far more effective at increasing GDP than QE has been.

Crucially, whereas the government's current growth strategy relies on an over-indebted household sector going even further into debt, SMC does not require that either the government or households increase their debts. In contrast, SMC can actually lead to a reduction in the overall level of household debt. It also makes banks more liquid and makes the economy more robust.

lower incomes, making it increasingly difficult for others to pay down their own debts. This is Keynes' paradox of thrift.

### **Government responses to the recession**

Given already high levels of private debts, a sustainable recovery requires that private sector incomes grow at a faster rate than private debts, in order that households and businesses can reduce their debt burden. While a fiscal expansion could have provided such an increase in income, this was ruled out due to concerns over the level of national debt (which had increased largely as

a result of the financial crisis and subsequent recession). Instead the government embarked on a deficit reduction strategy. Having ruled out fiscal policy as a way to increase aggregate demand, the government and Bank of England attempted to boost spending and GDP through monetary policy. Initially this took the form of lowering interests to close to zero, followed by a range of other policies and schemes designed to increase bank lending (and therefore spending). However, bleak economic prospects and the high levels of household and business debt meant that few people were willing to increase their borrowing and spending despite historically low interest rates.

With households, businesses and the government all attempting to cut their spending at the same time, it has been extremely difficult for the private sector (and the public sector) to significantly reduce their debts relative to incomes. Consequently, six years after the crisis there has still been no significant reduction in the level of private debt relative to income.

### **Is the current economic recovery sustainable?**

Recent economic figures suggest that government policies (such as Help to Buy) have finally been successful in encouraging households to borrow more, mainly for mortgages. This has led to an increase in house prices, and a subsequent increase in spending due to the ‘wealth effect’. However, while economic output is increasing, the expansion will not be sustainable if private debts continue to increase at a faster rate than private incomes. Given that mortgage lending does not directly increase economic output, the government is essentially relying on the increase in spending generated by the higher house prices to incentivise businesses to invest. This is however a dangerous strategy, given excessive private debt was the primary cause of the financial crisis. Unless the increase in spending incentivises large amounts of business investment, the private debt-to-income ratio is likely to increase further, setting the stage for a future crisis and/or recession.

### **Sovereign Money Creation as a way to make the recovery sustainable**

Policymakers are currently faced with a dilemma: the strategy of fuelling growth through increased borrowing by households to fuel economic growth is likely to be unsustainable, but the alternative approach – fiscal policy – was, and is, constrained by political beliefs about the appropriate response to public deficits.

However, there is a way out of this ‘Catch-22’ situation: the government can increase private sector incomes and spending without increasing public debt. It can do this by creating money and using it to finance an increase in spending, a reduction in taxes or a “citizens’ dividend”. We term this policy ‘Sovereign Money Creation’ (SMC). It is fundamentally different from Quantitative Easing (QE), which involved the central bank buying part of the government’s debt after it was issued (and so didn’t directly affect government spending at all). QE injected its newly created spending power into the financial markets, relying on indirect effects to boost spending in the real economy. In contrast, SMC actually increases government spending beyond what it would otherwise be, and so gets newly created money directly into the real economy. The increase in spending will increase private sector incomes, economic output and employment. Most importantly, SMC would allow the private sector to reduce its debt-to-income ratio. Therefore, Sovereign Money Creation, if implemented in the near future, would make the current economic recovery sustainable.

### **Sovereign Money Creation as a macroprudential tool**

In the longer term, SMC could also become an important macroprudential tool. Before the crisis the central bank had one policy lever, interest rates, but two targets, price stability and financial stability. While the countercyclical capital ratios that have been brought in since the crisis to prevent excessive bank lending may be useful in preventing asset price bubbles, they are less effective at constraining the level of private debt to a safe level given current incomes. However, SMC can be used to ensure that aggregate demand is maintained even as other monetary policies – such as countercyclical capital buffers – are used to restrict bank lending and prevent an unsustainable boom from continuing. This means that there would no longer be a trade-off between financial stability and economic growth.

### **Governance and risks with Sovereign Money Creation**

Of course, the danger with using money creation as a policy tool is that it could be abused, resulting in excessive inflation. Therefore it is important that politicians are not given direct control over money creation. Under SMC the decision over how much new money to create would be taken, as it is now, by the Monetary Policy Committee (MPC) at the Bank of England in line with their democratically mandated

targets. Likewise, the process should be designed so that the central bank is not able to gain influence over fiscal policy. In practice this means that the MPC and the Bank of England should have no say over how the new money should be used (this is a decision to be taken solely by the government) whilst the government should have no say over how much money is created (which is a decision for the MPC).

### **Historical support for SMC**

Using money creation to increase aggregate demand is not a new idea. In fact it has been advocated by some of the 20th century's most famous economists, including John Maynard Keynes, Milton Friedman and Henry Simons, amongst others. More recently, Ben Bernanke, Governor of the Federal Reserve from 2006 to 2014 recommended using such a policy in response to the Japanese deflation of the 1990s and 2000s. Several notable economists have recommended similar proposals in the wake of the 2007-08 financial crisis. Even the UK Treasury agrees that it is "possible for monetary authorities to finance fiscal deficits through the creation of money." However, it is not just theoretically possible, there are multiple examples of governments using money creation to finance part of their deficits. In fact, up until the year 2000 in the UK

the government financed a part of its deficit via money creation through an overdraft at the central bank – the 'Ways and Means Advance'. Although the 'Ways and Means Advance' has some differences from SMC, its use shows that creating money to finance fiscal deficits was actually normal policy before 2000.

### **In summary**

In his February 2013 speech, Adair Turner explained how the state using money creation to finance its expenditure was a 'taboo' subject in economic circles. Yet there is nothing especially unusual about creating money – new money is created every time a high-street bank issues a loan. What is different about Sovereign Money Creation is that rather than new money going to support the leveraging of property and financial speculation, as the majority of money created by the banking system does, instead with SMC newly created money directly increases spending in the real economy. SMC would therefore increase GDP, boost household incomes, and allow the public to reduce their debt-to-income ratio. Given that the current economic recovery is based on household debt rising faster than incomes, there is a strong need for Sovereign Money Creation in order to make the current recovery sustainable.

# Part 1: An introduction to Sovereign Money Creation

## INTRODUCTION

In Part 1 we briefly outline the causes of the financial crisis. We highlight the role played by banks and private debt, and discuss why monetary policy was largely ineffective at increasing aggregate demand. We consider the prospects for a sustainable recovery, given current economic conditions and policies. We then outline a proposal for financing government spending/tax cuts via money creation, termed Sovereign Money Creation (SMC), and consider the economic effects of the proposal. The benefits of using SMC as a normal policy lever are also discussed.

In Part 2 we provide more detail on the implementation and management of Sovereign Money Creation. First the types of fiscal expansion that could be financed by SMC are examined, followed by some of the technical aspects of SMC. These include the problem inherent in cooperation between the fiscal and the monetary authorities, the accounting for SMC, how interest rates could be set under SMC, the difference between making QE permanent and SMC, and the effect of SMC on the national debt.

Finally, the first appendix examines some concerns over Sovereign Money Creation, such as whether it will lead to high inflation or even hyperinflation. The second appendix reviews current and historical academic support for SMC. The third appendix gives examples where SMC has been carried out in the past.

## HOW WE GOT TO WHERE WE ARE TODAY

In the years up to the 2007-08 financial crisis, property prices rapidly increased in the US, the UK, and many other countries. In 2007 house prices – and the financial assets linked to them – collapsed in value, sparking a global financial crisis as a number of major financial institutions became insolvent. While some of these large banks were allowed to go bust, most were

rescued by the government. The collapse in asset prices reduced the financial wealth of the non-bank private sector (i.e. businesses and households). Lower wealth, combined with the reduction in bank lending, led to a fall in spending. This in turn sparked a global recession. Businesses became bankrupt, unemployment rose, incomes fell further and growth stalled.

In the UK the recession was particularly severe. Output dropped by 7% over the 18 months to mid-2009, and unemployment increased from 6% to 8%. Governments around the world reacted primarily through unprecedented monetary policy measures. In the UK, the central bank cut interest rates to 0.5% and purchased £375 billion of financial assets, primarily government bonds. While output and unemployment stabilised in mid-2009, they have still not recovered to their pre-crisis levels and growth is a long way from returning to trend. For recessions that follow financial crises and take place in many countries simultaneously, a slow recovery is to be expected<sup>1</sup>, but even in this context, many have been surprised by the sluggishness of the UK's recovery.

The following section explains why the crisis happened, and why the authorities' policy responses were ineffective at restoring growth. It also asks whether, given current economic conditions and policies, any recovery will be sustainable in the long term.

### The financial crisis

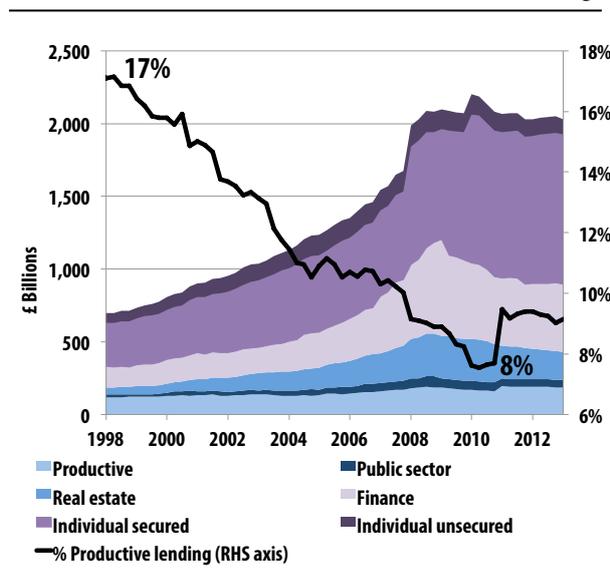
“The financial crisis of 2007/08 occurred because we failed to constrain the private financial system's creation of private credit and money.” Adair Turner (2012)

The defining feature of the years leading up to the 2007-08 financial crisis was a rapid increase in the amount of lending by commercial (i.e. high-street) banks into the

financial and property markets (See figure 1). This had the effect of increasing spending in the economy, since new money is created every time a bank makes a loan (as the Bank of England describes, “When banks make loans they create additional deposits for those that have borrowed the money.” (Berry et al, 2007)<sup>2</sup> Most of this newly created money was used to purchase property or financial assets. Given that supply in these markets responds to increases in demand very slowly, if at all, the major effect of this lending was to push up asset prices. Rising asset prices drew in speculators – not just financial sector traders and investors, but also buy-to-let landlords and owner-occupiers. Many of these speculators funded their activities by borrowing, leading to a self-fulfilling prophesy, as the increase in demand for these assets led to an increase in their price, which fuelled demand for further borrowing, and so on (see figure 2). This caused prices in these markets to rise faster than the income these assets generated, and faster than incomes in the economy generally.

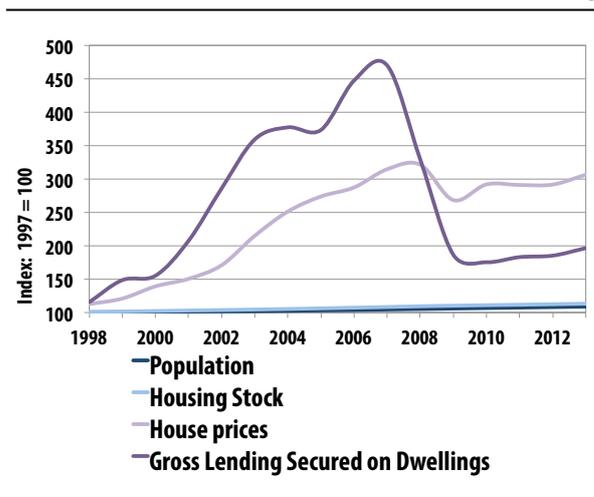
Most importantly, because the lending was for the purchase of pre-existing assets (i.e. it was not ‘productive’<sup>4</sup>), it increased the level of private debt but did not lead directly to an increase in national income. Consequently, the ratio of debt to the earning capacity of the economy – the debt-to-income ratio – rose (see figure 3). As the growth in private debt outpaced GDP, the economy became more vulnerable to shocks. In this environment, any fall in income, would, given the higher debt-to-income ratio, make debts harder to repay. (Minsky, 1984)

fig. 1 - sectoral breakdown of UK bank loans outstanding<sup>3</sup>



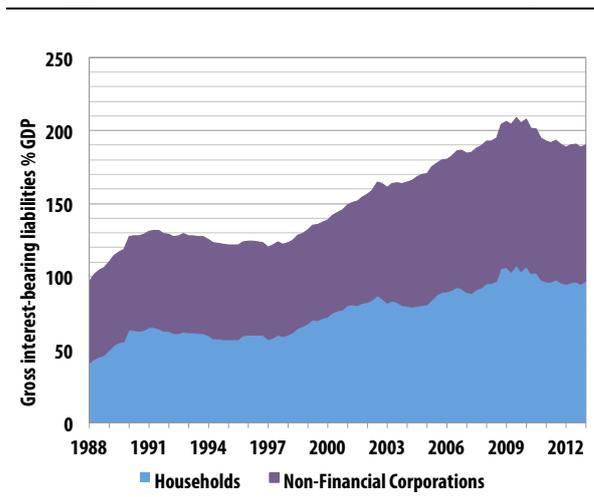
Source: Bank of England statistical database

fig. 2 - Growth in UK house prices and mortgage lending



Source: Bank of England statistical database, Nationwide house price survey, ONS

fig. 3 - Private sector debt in the UK as % of GDP



Source: ONS

The increase in private debt could not continue to outpace income forever. As interest rates increased from 2005 onwards (due to a combination of central banks raising rates and increases in market rates), borrowing, and therefore the rate of new money creation, slowed. Lower demand for property and financial assets led to a fall (or a slower rate of growth) in asset prices. Some speculators were forced to sell assets in order to repay the loans that were taken out to buy the assets. Consequently, asset prices fell further, which led to further sales of assets, pushing prices down even further. As some individuals were unable to sell the assets for a profit (in order to raise the money to repay the loans incurred in their purchase), they either defaulted on the loans or paid the interest on the loans

using money earned elsewhere. In some cases, banks were able to repossess houses or financial assets that had been pledged as collateral. However, the fire sales of these and other assets reduced their value by such a degree that many institutions became either technically insolvent or close to it.

The sharp reduction in US property prices precipitated the financial crisis. As the value of properties fell and loans were defaulted on, the financial products backed by these mortgages ('Mortgage Backed Securities') fell in value. This led to a solvency crisis in the shadow and normal banking systems as the institutions holding these products saw the asset sides of their balance sheets shrink, whilst their liabilities remained the same. The subsequent reduction in banks' capital ratios and a higher level of pessimism regarding the future state of the economy caused banks to reduce their lending below the rate at which old loans were being repaid. As bank balance sheets contracted, broad money was destroyed. This led to lower spending. Speaking in 2010, the then Governor of the Bank of England, Mervyn King, claimed that "At the heart of this crisis was the expansion and subsequent contraction of the balance sheet of the banking system." (King, 2010)

### The post-crisis recession and recovery

As a direct consequence of the crisis, and in addition to insolvency in the banking sector, a large numbers of households and businesses also became insolvent, or close to it, as the fall in the value of property and financial assets lowered private sector wealth. This occurred despite the non-bank private sector defaulting on a proportion of its outstanding debts. Consequently, the private sector shifted its focus to reducing its liabilities by paying down debts. This is a situation which Richard Koo (2011) has termed a 'balance sheet recession':

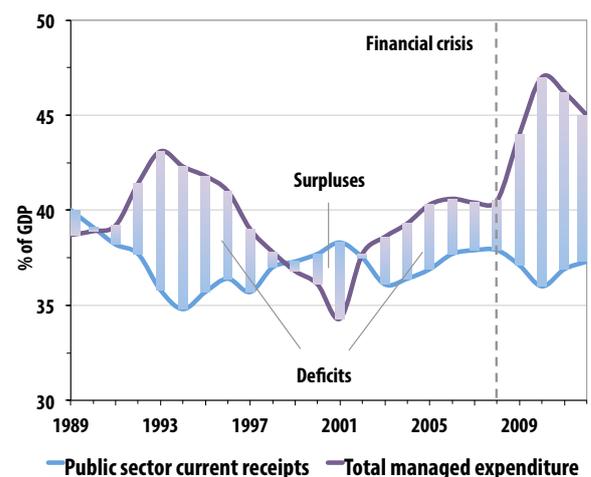
"When a debt-financed bubble bursts, asset prices collapse while liabilities remain, leaving millions of private sector balance sheets underwater [i.e. insolvent]. In order to regain their financial health and credit ratings, households and businesses are forced to repair their balance sheets by increasing savings or paying down debt. This act of deleveraging reduces aggregate demand and throws the economy into a very special type of recession." (Koo, 2011) [Our addition in square brackets]

In a balance sheet recession, the fall in the price of assets lowers private wealth, which in turn leads to lower spending (due to the wealth effect).<sup>5</sup> Further, faced with potential insolvency, the private sector reduces

its borrowing and attempts to pay down its debts. This also lowers spending and aggregate demand. Consequently, the incomes of both businesses and households fall, worsening the private sector's financial position. For the government, a fall in employment and business profits leads to a fall in tax revenues. At the same time, a rise in unemployment means that claims for out-of-work benefits increase. With falling revenue and rising expenditures, the budget deficit increases (see figure 4).

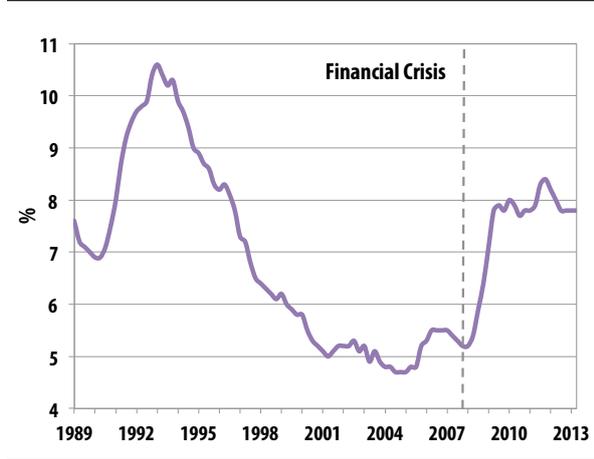
The increase in borrowing to meet the deficit resulted in a large rise in the government debt. Concerns over this increase led the government to attempt to cut back its spending. This caused a further fall in private sector incomes, which in turn lowered tax revenues and increased transfer payments (e.g. unemployment benefit, tax credits) from what they would be otherwise.<sup>6</sup>

fig. 4 – Total UK government spending and receipts (% of GDP)



Source: ONS

fig. 5 – UK unemployment rate



Source: ONS<sup>7</sup>

The lack of demand led to a large degree of spare capacity in the UK economy. Unemployment increased from

just over 5% in 2008 to almost 8% by the beginning of 2009 (see figure 5).

In normal recessions,<sup>8</sup> lower prices and domestic demand change the relative demands for foreign and domestic goods, affecting the exchange rate in the process, as people buy less from overseas. This could potentially lead to an export led recovery, as goods produced domestically become cheaper abroad. However, this type of recovery is only feasible if a country’s main trading partners are not also in recession: for an export-led recovery a country needs someone to export to. The 2007-08 recession was not isolated to a small number of countries but was instead a global event – one of only four ‘highly synchronised’<sup>9</sup> recessions since 1960 (Kannan et al., 2009). This ruled out the possibility of an export led recovery.

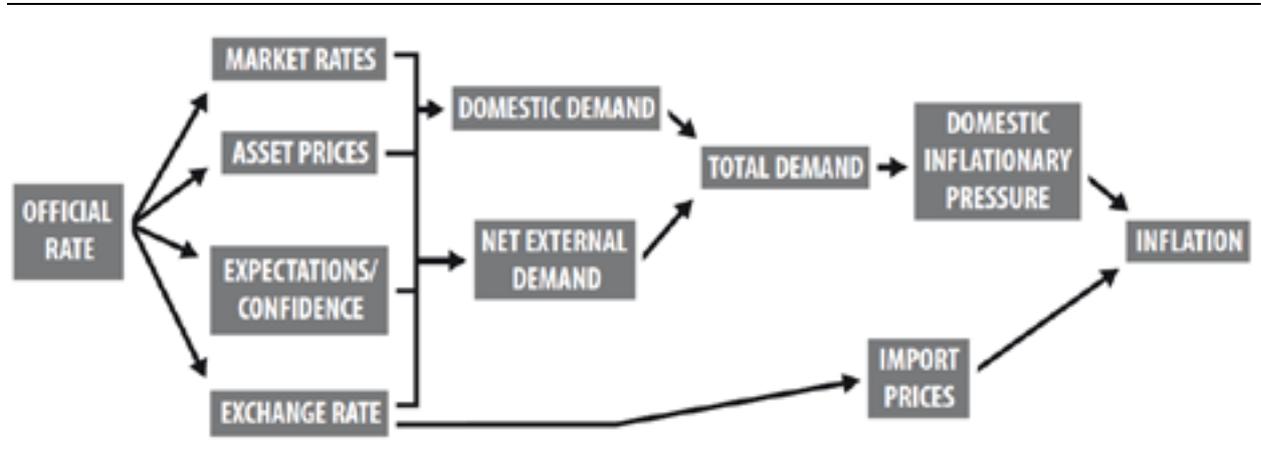
## POLICY RESPONSES TO THE RECESSION

The following section discusses the policy responses undertaken by the authorities in response to the post-crisis recession and low growth environment. In general, the authorities have two channels by which they can combat a recession or depression and stimulate aggregate demand: monetary policy and fiscal policy. Monetary policy involves the central bank attempting to affect aggregate demand in the economy by changing interest rates. This affects levels of borrowing and with it the amount of money and debt created by private banks. It also affects asset prices and the exchange rate. In contrast, fiscal policy involves the

government using taxation and spending to directly change the level of aggregate demand in the economy.

We start by looking at conventional monetary policy (the use of interest rates), and the forms of unconventional money policy used when conventional policy failed to stimulate the economy. We then briefly consider why fiscal policy has not been used as a response to the crisis, before assessing the prospects for a sustainable economic recovery, given economic conditions and the authorities current policy toolset.

fig. 6 – The transmission mechanism of monetary policy



Source: Bank of England (1999)

## Conventional monetary policy: interest rates

The consensus up until the 2007-08 crisis – at least within mainstream economics – was that monetary policy was the appropriate tool to use in response to a recession. In general, the central bank carries out monetary policy by adjusting the ‘base’ rate of interest, which influences the interest rates that banks charge on their loans to the private sector.<sup>10</sup> Increasing the interest rate is expected to lower the demand for loans. Less borrowing means less money creation, less spending, and therefore less demand, which leads to lower levels of economic activity (and eventually prices). Conversely, lowering interest rates is thought to encourage borrowing, leading to an increase in bank money creation, greater spending and therefore greater demand. This should lead to a higher level of economic activity (and prices). Accordingly, by March 2009 the Bank of England had cut interest rates to 0.5% (a historical low). This however failed to lead to any discernible economic recovery.

To understand why conventional monetary policy did not lead to a recovery, it is important to understand the transmission mechanisms through which changes in interest rates are assumed to affect aggregate demand (outlined in figure 6). As described above, a lower base rate should lead to a lower rate of interest on bank loans, and therefore more private sector borrowing (and so spending). Conventional expansionary monetary policy therefore works (in part at least) by lowering the price of credit and in doing so encouraging the private sector to borrow and go further into debt.

This is the crux of the problem. In an economy in the midst of a balance sheet recession caused by excessive levels of private debt, the response of the authorities was to attempt to get the private sector to further increase its debt. In these conditions it was unlikely that any positive rate of interest would be low enough to encourage the private sector to borrow.<sup>11</sup> Households were intent on paying down their debts and reducing their overall leverage, while businesses were unlikely to borrow to invest given the negative economic outlook. Meanwhile, the banks that survived the crisis were attempting to reduce their leverage and rebuild capital by limiting their new lending.

As a result, the major transmission mechanism of monetary policy – using interest rates to encourage further borrowing – broke down, rendering conventional monetary policy powerless. In any case, given the excessive levels of private debt, encouraging

further indebtedness was – and is – unlikely to lead to a sustainable long-term recovery. Instead, it may inadvertently lay the foundation for a future financial crisis.

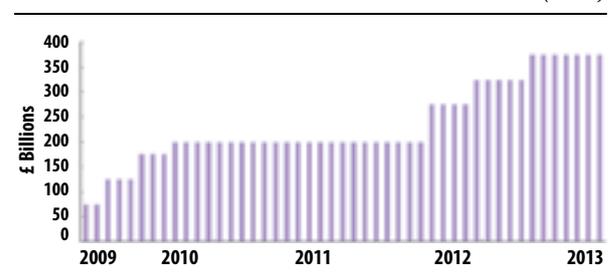
## Unconventional monetary policy

When the major transmission mechanism of conventional monetary policy was rendered ineffective, central banks, including the Bank of England, turned to ‘unconventional’ policy measures, such as ‘Quantitative Easing’ (QE), ‘Funding for Lending’ (FLS) and Forward Guidance. We consider each of these unconventional monetary policy instruments below.

### Quantitative Easing

By magnitude, Quantitative Easing (QE) has been the most prominent unconventional monetary policy measure. Beginning in March 2009, QE involved the central bank purchasing pre-existing financial assets (predominantly government bonds) from non-banks (typically pension funds and insurance companies), in the process creating money (in the form of central bank reserves). As of October 2013 these purchases total £375 billion. (see figure 7.)

fig. 7 – Bank of England cumulative asset purchase announcements (£ bn)



Source: Weale (2013)

By purchasing bonds from non-banks, the central bank simultaneously increases both the stock of central bank reserves held by commercial banks at the Bank of England, and the quantity of bank deposits held by non-banks. (See Benford et al., 2009, for a full description of how QE operates.)

QE is thought to affect the economy through several channels. The most well known of these, at least to the general public, is the ‘bank lending channel’. This theory implies that an increase in central bank reserves due to QE will make banks more willing to lend, as it lowers the costs to banks of acquiring reserves. This is assumed to occur because those banks that were short of reserves will now have extra reserves, without

needing to sell assets in order to acquire them. Alternatively it may occur because those banks that find themselves with excess reserves react by increasing their lending.<sup>12</sup>

However, in reality (and as recognised by the Bank of England: see Joyce et al., 2011) the effect on lending through this channel is likely to be small. First, banks do not tend to be constrained by a lack of reserves.<sup>13</sup> As the former governor of the Bank of England, Mervyn King, put it: “In the United Kingdom, money is endogenous – the Bank supplies base money [i.e. central bank reserves] on demand at its prevailing interest rate, and broad money is created by the banking system” [our addition in brackets] (1994).

In addition, QE may also lower a bank's cost of funding (i.e. the cost of acquiring reserves). However, during low interest rate periods, these costs tend to make up a small proportion of the total cost of making a loan, and as a result are not a major consideration for banks when deciding whether to lend. Rather, banks are more concerned with the profitability of loans<sup>14</sup>, which depends on the likelihood of the loans being repaid. In the uncertain recessionary environment that follows a financial crisis, banks are unlikely to have confidence in new loans being repaid and so they will be reluctant to lend regardless of the provision of reserves through QE.

QE also affects the economy via its effect on longer-term interest rates. The increase in the demand for bonds (gilts) pushes up their price, in the process lowering their yield. Pension funds and insurance companies that sold their bonds to the Bank of England are now left holding money, in the form of deposits in an account at a commercial bank. To the extent that this money is reinvested in other bonds, the prices of bonds will continue to rise. However, the lower yields are likely to lead, through a “search for yield”, to the purchase of corporate bonds and other higher yield (and higher risk) securities. This displacement leads to further rounds of purchases, price increases, and displacements, etc., until the interest rate falls to a level which equilibrates the demand and supply for money. This ‘portfolio rebalancing effect’ lowers interest rates and therefore lowers companies’ borrowing costs. However, during recessions caused by excessive indebtedness it is unlikely that interest rates can be lowered by enough to incentivise an increase in investment.

As well as lowering borrowing costs, QE also increases the price of financial assets, in the process increasing the wealth of those holding them. An increase in wealth should increase spending, through the effect of wealth on consumption. This ‘wealth effect’ is the principal route through which the Bank of England expected QE to affect the economy.

In addition, by lowering interest rates QE can affect the exchange rate. However, the likelihood of this leading to an increase in exports is small, since other major economies are simultaneously engaging in QE so that the effects cancel each other out. QE may also affect expectations (for example, by signalling the intent to keep interest rates lower for longer than would otherwise be the case) and as a result the economy. However, as before for QE to work via this channel private sector borrowing must increase, at a time when most households and businesses want to reduce their existing debts.

Given the problems identified in QE's transmission mechanism, it is perhaps unsurprising that there is mixed evidence for the effect of QE on growth and employment. In a recent paper, Ryan-Collins et al. (2013) look at the effect of QE on bank lending and find that:

“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.”

However, while the effect of QE on bank lending was small, there was a large effect on financial wealth, as QE pushed up the price of financial assets. A Bank of England report (Bell et al., 2012) estimated that in total QE led to an increase in net household wealth of just over £600 billion, equivalent to around £10,000 per person. However, because assets are highly unequally distributed, the wealthiest 5% of households benefitted disproportionately:

“By pushing up a range of asset prices, asset purchases have boosted the value of households’

financial wealth held outside pension funds, although holdings are heavily skewed with the top 5% of households holding 40% of these assets.” (Bell et al., 2012)

Consequently, QE increased the wealth of the richest 5% by around £80,000 each, whereas the bottom 95% saw their wealth increase by an average of just £6,315 each. In reality, as many did not have much in the way of financial assets, most received no direct benefit from QE at all.

QE also led to a modest increase in output and inflation. A Bank of England study (Joyce et al. 2011) found that the first round of QE “may have raised the level of real GDP by 1.5% to 2% and increased inflation by between 0.75% to 1.5% percentage points”. If later rounds of QE had a proportionate effect, then in total QE would have led to an increase in income of “roughly £500-£800 per person in aggregate”. (Bell et al. 2012)

This highlights the ineffectiveness of Quantitative Easing in stimulating the real economy relative to its magnitude. For every £1 of money created via QE, UK GDP increased by just 10p-15p. While these effects are significant, they are undeniably small in comparison to the magnitude of the stimulus: it required £375 billion of Quantitative Easing – then equivalent to around 26% of GDP – to create just £37-£56 billion of additional spending.

The unequal distribution of wealth may be one of the reasons why the effect of QE on spending was small relative to the value of assets purchased. This is not to say that QE did not prevent poorer households from becoming even worse off: it is possible that without QE more companies may have failed and more jobs could have been lost. However, it is hard to argue that the policy was particularly efficient or effective, at least in regards to its effect on spending. A more detailed breakdown of the effects of QE can be found in Ryan Collins et al. (2013).

### **Funding for Lending**

The Bank of England announced the Funding for Lending Scheme (FLS) in July 2012. Funding for Lending aims to increase bank lending into the real, non-financial, economy. FLS works by allowing banks to swap their illiquid assets for liquid assets (Treasury bills) from the Bank of England. These Treasury bills can then be used by banks as collateral to borrow central bank reserves in the interbank market. The

quantity and price of funding available through FLS varies with the type and quantity of lending that banks undertake. The more lending banks do to small and medium-sized businesses, the greater access they have to further funding and the lower the price of that funding. Therefore, FLS contains aspects of credit guidance,<sup>15</sup> a policy in which the central bank incentivises certain forms of lending over others.

However, while FLS has led to a reduction in bank funding costs, as of August 2013 it had failed to lead to an increase in lending to small and medium size businesses.<sup>16</sup> This should not be surprising: just as with conventional monetary policy, FLS is designed to operate by lowering the cost of credit and thus incentivising the private sector to go further into debt. But as discussed previously, the likelihood of slightly lower interest rates leading businesses to invest is quite small given current debt-to-income ratios. Instead, the real barrier to borrowing is not interest rates, but the expectation that future levels of demand will not be high enough for any investment in the real economy to be profitable.

The Funding for Lending Scheme is unusual in terms of monetary policy because it involves cooperation between the monetary and fiscal authorities: the Debt Management Office issues the new Treasury Bills used in FLS specifically for the scheme (Churm et al. 2012). The relevance of this is addressed in appendix 3.

### **Forward guidance**

Recently, the UK has begun a policy of ‘Forward Guidance’. This essentially commits the MPC to holding interest rates at 0.5% and QE at its current level of £375bn until unemployment falls below the threshold level of 7%. It is too early to assess the effects of Forward Guidance on the economy.

### **Why monetary policy was ineffective in boosting the economy**

After the 2007-08 crisis, the main problem facing the central bank was that the policy levers it controlled were designed to work by incentivising the private sector to borrow and spend. By changing the price of credit and financial assets, the central bank was attempting to persuade the private sector to alter its behaviour (i.e. to increase its borrowing and spending). However, in an economic environment in which the private sector is intent on reducing its debt, the central bank’s ability to affect the economy is seriously diminished. For monetary policy to be effective requires the private sector

to participate by reacting to changes in interest rates in a predictable manner. If the private sector refuses to react as expected, the central bank is unable to affect the economy, and the transmission mechanism of monetary policy breaks down. While the central bank can change the short-term interest rate, lowering the cost of borrowing in the process, it cannot force banks to lend or people (or firms) to borrow. It can also purchase assets and in doing so change yields (i.e. longer-term interest rates on government and corporate bonds), but it cannot force firms to issue new debt or invest. Equally, by purchasing assets, the central bank can change the level of private sector wealth, but it cannot force the beneficiaries to spend this increased wealth in the real economy.

In short, a recessionary environment, high debt-to-earnings ratios, weak balance sheets, and pessimistic expectations about the future may change the way in which the private sector reacts to monetary policy.<sup>17</sup> If this is the case, conventional monetary policy (the manipulation of interest rates) can become as effective as “pushing on a string”.<sup>18</sup> Another policy is needed.

### Fiscal policy

The other major tool the government can use to affect the economy is fiscal policy – i.e. borrowing, taxing, and spending. Prior to the financial crisis the economic consensus was that fiscal policy was not particularly effective at stabilising aggregate demand and instead monetary policy should be used to ‘fine tune’ the economy.<sup>19</sup> In addition, fiscal policy was thought to have some harmful side effects, including the capacity to at least partially ‘crowd out’ private investment by competing with the private sector for funds and/or real resources.<sup>20</sup> The degree to which government spending crowds out the private sector has long been contested on both theoretical and empirical grounds.<sup>21</sup> However, there is a growing consensus that fiscal policy is more effective – i.e. crowding out is less likely – in periods of excess capacity and low interest rates. First, because in an economy with excess capacity the crowding out of real resources is unlikely to occur, and second, because the central bank is less likely to act to offset changes in government spending (Delong & Summers, 2012). Recent estimates of fiscal multipliers confirm the expansionary effect of government spending is proportionately larger in recessions (see for example: Auerbach & Gorodnichenko (2012a, 2012b), Baum & Poplawski-Ribeiro (2012), Fazzari, et al. (2012), and Gordon & Krenn (2010)).

However, although many economists have come round to the idea of the potential effectiveness of fiscal policy, at least in recessionary or low growth environments, political and public concerns about the national deficit and debt have made fiscal policy politically problematic. As McCulley & Pozsar (2013) point out, “policy prescriptions for fiscal expansion in depressed economies at the zero bound<sup>[22]</sup> tend to ignore the political hurdles to stimulus of already high (or unsustainable, over the medium to long-term) public debt-to-GDP ratios” [our addition in square brackets]. Consequently, although fiscal policy could increase demand, employment and growth, concerns about the national debt have reduced governments’ willingness to use it.<sup>23</sup>

### Summary: The policy dilemma

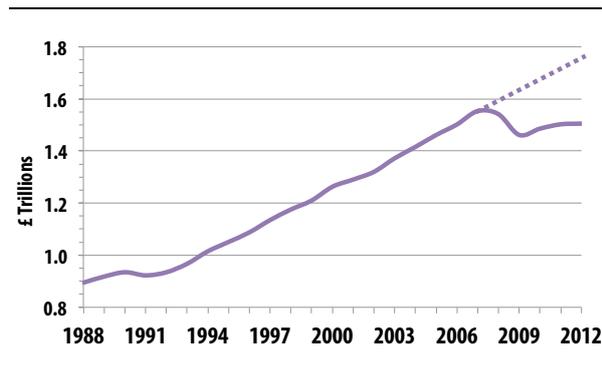
In the aftermath of the crisis the transmission mechanism of monetary policy was ineffective due to high levels of private debt, while fiscal policy was, and is, constrained by political beliefs about the appropriate response to public deficits. Policymakers therefore found themselves in a ‘Catch-22’ situation – conventional monetary policy was ineffective at increasing spending, and fiscal policy was not politically viable. Unable to increase aggregate demand in the economy, policymakers must therefore hope for either an increase in demand from overseas, leading to an export led recovery, or alternatively an increase in domestic demand. While an export-led recovery is unlikely due to the UK’s major trading partners also suffering from low growth, an increase in domestic demand requires an increase in spending, which is likely to require a further increase in private debt. Given the private sector’s already high debt-to-income ratio, any further increase in private debt may be unsustainable, particularly if the additional borrowing does not lead to at least an equivalent increase in income.

## PROSPECTS FOR A SUSTAINABLE RECOVERY

Following the crisis, the risk was not inflation, but rather that lower levels of spending and therefore demand would lead to lower prices (potentially leading to a debt deflation<sup>24</sup> process). Deflations tend to be associated with negative economic outcomes for a number of reasons. Perhaps the most important of these is that deflation increases the outstanding real value of both public and private debt. Therefore, from a policy perspective it was important that demand remained at a level that prevented prices from falling.

While a debt deflation was avoided, the policies described earlier failed to lead to a quick recovery (see figure 8). This is perhaps unsurprising, given that the recession was both global in nature and followed a financial crisis. However, even taking these factors into account, the growth in output since the crisis has been lower than would be suggested by looking at similar historical episodes.<sup>25</sup>

fig. 8 – UK GDP<sup>26</sup> 1988-2013



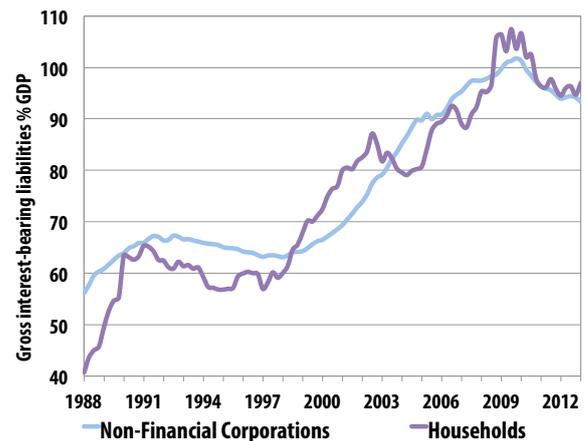
Source: ONS

The slow recovery was a direct result of both the non-bank private sector (businesses and households) and the public sector attempting to deleverage at the same time. However, the private sector's attempt to reduce its debts was and still is being hindered on four fronts:

- First, following the crisis households lowered their consumption spending in order to focus on repaying debt. Deleveraging requires loan repayments to be made at a faster rate than new loans are taken out. Because loan repayments are the reverse process of money creation, money is being destroyed at a faster rate than new money is being created, lowering spending, nominal demand and income. Lower private sector incomes then make debt repayment more difficult (the 'paradox of thrift').

- Second, given future expectations of low demand (due to household deleveraging, austerity and lower levels of demand for exports), businesses are less willing to invest or hire workers (further lowering incomes).
- Third, concerns over the national debt led the government to lower its spending and investment, again lowering private sector incomes.
- Fourth, the international nature of the crisis, along with the problems in the Eurozone, led to a fall in demand in all countries, preventing adjustments via exchange rates (and further lowering incomes). With lower income, deleveraging takes longer to achieve, delaying an increase in employment and a return to growth.

fig. 9 – UK household and non-financial corporate debt as a % of GDP



Source: ONS

Since the financial crisis the UK private sector has hardly deleveraged at all (see figure 9). Given that the crisis came about in part due to excessive private debt levels, any further increase in private debt is likely to be unsustainable, particularly if it does not lead to an equivalent or greater increase in income. Yet the authorities' response to the crisis has largely revolved around lowering interest rates in an effort to increase private sector borrowing further. If lower rates and other monetary policy measures are successful in increasing investment, then this may reduce the debt-to-income ratio, because the increased output from that investment would provide the income to service the loans. However, more likely is that the lower interest rates will stimulate speculative activities rather than

investment in the real economy (White 2012). In the worst-case scenario this could lead to a further increase in asset prices and the private sector's debt-to-income ratio. While an increase in lending for asset purchases would temporarily increase incomes due to the wealth effect, the limited increase in GDP from the increased spending would not be enough to offset the increase in debt, making any expansion of this type unsustainable (given current debt levels). Indeed, given that the UK private sector has been largely unable to lower its debt-to-income ratio, the recent rise in consumer and mortgage debt in the UK should be of concern for those interested in a sustainable recovery. As Adair Turner put it in a recent speech:

“The success of monetary policy, credit subsidy, and macro prudential policies depend in large part on the stimulus to private credit and money creation, persuading households to increase mortgage debt or businesses to borrow more money. In some circumstances such stimulus might be compatible with required long-term deleveraging, as the nominal GDP stimulus outweighs the growth in nominal debt. But it is also possible that monetary, credit subsidy and macro prudential levers will only work by stimulating increases in leverage which reinforce our vulnerability to financial and economic instability.

We got into this mess because of excessive creation of private credit and money: we should be concerned if our only escape route implies

building up a future excess. That concern should be particularly strong when we use macro prudential levers to facilitate greater bank credit supply, given that such levers work via the relaxation of leverage constraints. Excessive leverage and maturity transformation in the banking system was central to the 2007 to 2008 crisis.” (2013)

For there to be a sustainable recovery the private sector must be able to lower its debt-to-income ratio. Given that any attempts to pay down debt will lower incomes, and that businesses are unlikely to increase investment given uncertain future economic conditions, for the debt-to-income ratio to fall requires that the private sector obtain an outside source of income. This can come from either an increase in exports, or an increase in government spending in excess of taxes. An increase in income from either source would allow the private sector to pay down its debts and reduce its debt-to-income ratio.

However, the global nature of the 2007-08 crisis, and the related and on-going problems in the Eurozone, mean that an export led recovery is unlikely. In addition, given the government is currently attempting to reduce its deficit, an increase in demand is unlikely to emanate from this sector either.

There is clearly a need for an alternative policy that can increase aggregate demand without requiring either the public or private sector to increase its debt. We outline this policy below.

## AN ALTERNATIVE POLICY: SOVEREIGN MONEY CREATION

Monetary policy can be thought of as an attempt by the authorities to influence the amount of money creation and spending in the economy. By creating new money, bank lending enables spending in excess of what would otherwise be possible, which results in an increase in aggregate demand.<sup>27</sup> Monetary policy was primarily unsuccessful at increasing GDP following the financial crisis because banks didn't want to lend and individuals didn't want to borrow. Rather, individuals wanted to save and repay debt, whilst banks wanted to reduce their leverage by lowering the rate at which they made new loans. Consequently, new money creation by banks, and with it spending, was lower than would have normally been expected (given the reduction in interest rates). Although QE did lead to a modest increase in spending, this occurred indirectly through QE's affect on wealth.

In contrast, fiscal policy can be looked at as an attempt to change the level and composition of spending in an economy. Because the government is able to buy goods and services from the private sector, fiscal policy can be used to directly increase demand. However, since 2009 the government's commitment to reducing the national debt has restricted the use of fiscal policy for this purpose. This has led to the policy dilemma outlined earlier: conventional monetary policy is ineffective and fiscal policy could be effective but is politically infeasible.

Fortunately there is a way out of this 'Catch-22' situation. Consider the following:

- The central bank can create money at will. Yet given current conventions, it cannot spend this money in a way that directly adds to aggregate demand.

Therefore, without a willing partner (the private sector) the central bank is unable to directly influence GDP.

- The government can spend money and so directly affect GDP. But it cannot create money (at least given current conventions) and therefore its ability to spend and increase GDP is limited by the extent to which it is willing to tax and issue bonds. Given the government's focus on reducing the national debt, the government will not deliberately adopt a policy that leads to an increase in government borrowing.

However, if an increase in spending is desirable, the government and central bank can work together to increase spending and therefore GDP. Rather than attempting to get the private sector to increase its spending, the Bank of England could instead partner with the government and use its capacity to create money to attempt to increase the government's spending instead. The Bank of England can do this by creating money and, rather than using it to buy pre-existing financial assets (as was the case with QE), instead grant it to the government. Because this process involves the creation of money by the state (rather than by commercial banks), we can name this process "Sovereign Money Creation" (SMC).

The government could then use the money for several purposes:

- It could use the newly created money to directly increase its spending
- It could temporarily reduce taxes, using the money to compensate for the lower tax revenue (keeping its total income constant)
- It could distribute the money directly to citizens in the form of a "citizen's dividend".

However, it is important that politicians are not directly given control over money creation, because of the risk that political pressures could lead the government to abuse this power to create money. Therefore, the decision over how much new money to create should be taken, as it is now, by the Monetary Policy Committee (MPC) at the central bank in line with their democratically mandated targets. Likewise, the process should be designed so that the central bank is not able to gain influence over government policy. In practice this means that the MPC and the Bank of England should not have any say over what the new money should be used for (this is a decision to be taken solely by the

government) whilst the government should have no say over how much money is created (which is a decision for the MPC).

With these two factors in mind, the procedure for the central bank and the government cooperating to increase spending is relatively simple. First the central bank would take a decision over how much money to create and grant to the government. Once in possession of the money, the government could use it to increase spending or lower taxes.<sup>28</sup>

This increase in government spending would directly increase demand and therefore output and GDP, without increasing private or public debt. By increasing spending and lowering the private sector's debt-to-income ratio, this creates the possibility of a sustainable and robust recovery.

This type of cooperation between the central bank and the government has recently been labelled "Overt Monetary Finance" (OMF) by former Financial Services Authority chairman Adair Turner (2013). It is however not a new idea. Many economists advocated similar policies in response to the Great Depression, including: Paul Douglas & Aaron Director (1931), Lauchlin Currie, Harry Dexter White & Paul Ellsworth (1932, as cited in Laidler, 2002), John Maynard Keynes (1933), Jacob Viner (1933) and Henry Simons (1936). Later, both Abba Lerner (1943) and Milton Friedman (1948) would advocate financing fiscal deficits with money creation as a matter of course (see appendix 3 for more details). More recently, in response to the on-going stagnation and low growth rates brought about by the 2007-08 financial crises, William Buiter and Ebrahim Rahbari (2012), Paul McCulley and Zoltan Pozsar (2013), Adair Turner (2013), Martin Wolf (2013), and Richard Wood (2012) have either discussed or advocated using money creation to finance a fiscal expansion. However, the revival of this idea amongst modern mainstream economists can be traced back to a 2003 speech given by Ben Bernanke, chairman of the Federal Reserve from 2006-2014, who advocated that the Japanese authorities pursue such a policy in response to the Japanese deflation and slump that began in the early 1990s.

Financing government spending with money creation has also been used throughout history, including up until 2000 in the UK through the Bank of England's 'Ways and Means Advance' to the UK government. Further information on the Ways and Means advance and other examples of financing deficits with money

creation can be found in appendix 3. In addition, Part 2 considers the types of fiscal expansion that could be financed by Sovereign Money Creation, the governance procedures required for engaging in SMC and the accounting for money creation under SMC. Appendix 1 looks at some of the inherent concerns around SMC, such as whether it will be inflationary. Appendix 2 looks in more detail at the economists who have supported similar policies, and the use of these policies throughout history.

The following section reviews the basic procedure for Sovereign Money Creation.

### A step-by-step procedure for Sovereign Money Creation

The following section will briefly describe a process for a specific implementation of SMC. Part 2 has more details on why this specific process was chosen.

**Step 1:** Before any decisions are made regarding the amount of money to be created through SMC, the government must decide what any money created through SMC will be used for. This is important, as what the money is spent on will determine SMC's effect on demand (for example, increases in government spending tend to have a larger economic effect than tax cuts). Therefore, the quantity of new money the Bank of England creates will depend on the government's plans for that money. However, the Treasury need not spend all the money on one program or project, but could lay out a range of options, including a mix of spending, tax cuts/holidays and a citizens' dividend. If multiple options were specified the Treasury would also be required to present a breakdown to the central bank of how any new money will be split between each category. This will allow the Bank of England to determine the likely overall effect of any specific amount of SMC on the economy as a whole. (Part 2 gives further analysis on the effects of different methods of distributing money created through SMC).

**Step 2:** With a particular form of fiscal expansion specified, in its monthly meeting the MPC would now be required to consider Sovereign Money Creation as one of the tools available to it to hit its democratically mandated targets. Therefore, just as with its other decisions (e.g. over interest rates, QE, etc.) based on the MPC's analysis of economic conditions a vote would be taken on whether to increase or hold SMC constant. If the initial vote were in favour of increasing SMC then a subsequent vote would be taken on quantity. This decision would be undertaken alongside the decisions on

interest rates and Quantitative Easing. In this formulation, MPC decisions are still taken independently from the Treasury. Likewise, the MPC has no say over which projects will be funded by SMC or how the money created through SMC will be used. If multiple projects are presented the MPC will have no control over how the money is split between each project (so that the MPC is not able to influence fiscal policy).

In deciding whether to vote for or against SMC, the members of the MPC must only consider the effect they think SMC will have on aggregate demand. Their personal or political views on the distribution channels chosen by the government must be set aside, and they should not oppose or support SMC based on an aversion to, or liking for, a specific project. The only reason projects are presented to the MPC in advance is so they can calculate the total effect on demand of different quantities of SMC.

**Step 3:** In the event that the MPC takes the decision to fund a fiscal expansion<sup>29</sup> via SMC, the Treasury issues the appropriate quantity of specially created 'perpetual zero-coupon consols'. These would be interest-free and have no maturity dates. The central bank would then purchase these bonds by crediting the government's account (which is a liability of the Bank of England and an asset of the Treasury). The bonds are then added to the Bank of England's balance sheet, increasing its assets. This increase matches the increase in its liabilities from creating central bank reserves.

**Step 4:** The government now has a new asset, central bank reserves in its account at the Bank of England. The government also has created a new liability, the zero-coupon consols. It must however be noted that, unlike government debt, these consols do not create any financial obligations on the part of the government: they neither have redemption dates nor coupon (interest) payments associated with them. As they create no obligations on the part of the issuer, it would be incorrect to consider them part of the national debt (as the definition of debt is that it is an obligation owed to one party by another).

When the government spends the new money created through SMC, the central bank debits the government's reserve account and credits the reserve account of the commercial bank whose customer is the recipient of the government spending. The commercial bank then credits its customer's account with bank deposits. The bank has a new asset (new central bank reserves) and a new liability (new bank deposits). As a result, SMC

leads to the creation of new central bank reserves (base money) and new commercial bank money (broad money).

**Step 5:** The recipient of the spending will then, depending on their propensity to consume, spend a proportion of the money, leading to a multiplier effect. The extent to which SMC is successful at raising output rather than prices depends on the degree of spare capacity in the economy. Therefore, the planned use of the money created for SMC should be periodically reviewed by the government, to ensure adequate spare capacity. Out of the money that is not spent by the recipient, a proportion may be used to pay down debts, which will reduce leverage in the economy as well as the stock of broad money.

**(Potential) Step 6:** If there is a requirement to reverse SMC in the future this is relatively easy to achieve. Just as government deficits financed by bond issues can be repaid when the government runs surpluses, deficits financed via money creation can be extinguished with surpluses (by the Treasury simply repurchasing the SMC-specific securities from the central bank). Alternatively, if the central bank wanted to lower the quantity of reserves held by banks, but the government was running a deficit, it could sell bonds to banks, through its standard procedures for open market operations.

In the following section we consider the likely economic effects of SMC, before looking at the costs and benefits of using SMC as a normal policy instrument.

## USING SOVEREIGN MONEY CREATION DURING DOWNTURNS

This section considers the likely economic effects of SMC. The aim of SMC is to directly increase aggregate demand beyond what it otherwise would be, leading to an increase in spending and therefore nominal GDP. This increase in demand is intended to occur due to either an increase in government spending or a reduction in taxes (which leaves the public with greater disposable income), without a corresponding increase in either public or private debt. An increase in nominal GDP can take place due to an increase in real GDP, an increase in prices, or by some combination of the two. In general, SMC that leads to an increase in real GDP would be considered the most desirable outcome. However, using SMC to increase prices (i.e. cause inflation) may also be desirable, if inflation is below target and conventional monetary policy is ineffective in increasing demand, or if a moderate increase in inflation is considered desirable. However, unless otherwise stated, in this section the assumption will be that SMC is being undertaken with the express purpose of increasing real GDP. That is, SMC will be used when the economy is operating with spare capacity, so that increases in demand are likely to increase output rather than the rate of inflation. Figure 10 summarises the effects of SMC on the economy outlined below.

**The effect of Sovereign Money Creation and the type of fiscal expansion:** The type of fiscal expansion funded by SMC will have differing effects depending on whether the expansions increase supply capacity in the economy directly, indirectly, or not at all. If, for example, sovereign money funds an increase in house building, this will affect the supply of new homes (and

so effect the quantity and price of housing, as well as quantities and prices in other markets, particularly those that supply the construction industry). Conversely, if the government simply uses the new money to increase its purchases of finished goods from the private sector, this will affect the demand for goods and services (and as a result the quantity and price of new goods and possibly investment). To the extent that sovereign money funds investments in productive capacity that would not have been undertaken by the private sector,<sup>30</sup> output can be expected to be higher and prices lower than they otherwise would have been (with positive repercussions for the trade balance).

In addition, the magnitude of the effect of SMC will also depend on whether the expansion funds a tax cut (technically a tax holiday) or a spending increase, as spending increases are usually more expansionary than tax cuts.<sup>31</sup> The amount that the recipients of the increased spending (or tax holiday) choose to spend will depend upon their marginal propensity to consume.<sup>32</sup> Individuals may also increase their spending due to the increase in wealth.<sup>33</sup> The increase in income will lead to further rounds of spending and income, multiplying the initial effect of the spending in the process (the multiplier effect). Likewise, each round of spending will be taxed (as will the increase in income), increasing tax revenue for the government.

**The effect on the trade balance:** The degree to which the increase in demand falls on the domestic economy rather than on imports will depend upon the marginal propensity to import. While the government can

ensure that the first round of spending will fall entirely on domestic goods and services, it has no direct influence on the subsequent rounds. To the extent that the increase in demand leads to an increase in demand for imports, there will be implications for the exchange rate and therefore the trade balance. Although an increase in imports will initially worsen the trade balance, if this leads to a fall in the value of the pound, it is likely to increase export competitiveness and reduce the trade deficit in the long run. As discussed below, the effects on the exchange rate and trade balance are likely to be amplified by the effect of SMC on interest rates and so the capital account.

**The effect on the domestic economy:** The total increase in demand that falls on the domestic economy will depend on the marginal propensity to consume and marginal propensity to import. Given the increase in demand for domestically produced goods, the effect of the increase in domestic demand will depend in large part on the degree of spare capacity in the economy. In an economy with a large degree of spare capacity, an increase in demand is likely to translate largely into an increase in output. Increased demand leads to firms hiring more workers, more output is produced, and so real GDP increases. Through the multiplier effect this leads to further increases in demand, output and employment. Conversely, in an economy with no spare capacity an increase in demand is likely to translate largely into an increase in prices.<sup>34</sup>

Assuming that there is excess capacity, the increase in economic activity will increase business profits, and this, combined with the increase in employment, will lead to higher tax revenues. The increase in private sector income will lower the debt-to-income ratios, which will allow deleveraging to occur. Higher income levels as well as lower debt levels mean a smaller proportion of income will be spent servicing debt, freeing up money for consumption or investment. In addition, an increase in private sector earnings and equity increases financial stability and makes the private sector less vulnerable to future changes in interest rates.

Taken together, all of these effects are likely to improve expectations as to future levels of economic demand, resulting in an increased willingness to invest. Even if an increase in investment is not forthcoming, entrepreneurs are likely to hire a greater number of individuals given the current capital stock, which will increase employment and output in the process.

**The effect on interest rates:** An increase in demand and output would normally be expected to increase interest rates, as the demand for money would increase in line with output. However, this effect is offset because SMC also increases the stock of money. Furthermore, given that the financial markets react far quicker to changes than the real economy (where additional rounds of spending takes time), interest rates are in fact likely to fall at first, before increasing due to an increase in output. As Keynes (p.200-201, 1936) noted, if changes in money “are due to the Government printing money wherewith to meet its current expenditure ... the new money accrues as someone’s income”. This will leave some of those who receive the money holding more than they require for transactional or liquidity purposes (the transactions and precautionary motives). Consequently, “some portion of the money will seek an outlet in buying securities or other assets” which will lead to a fall in longer term rates of interest, which should itself lead to further increases in output and income.<sup>35</sup>

**The effect on exchange rates:** As well as stimulating investment, the initial change in the rate of interest will also affect the desirability of foreign versus domestic assets. The initial fall in the rate of interest will lower the demand for UK assets, and this will in turn lower the demand for pound sterling on the foreign exchange markets. The fall in the value of the pound vis-à-vis foreign currencies will affect the relative prices of domestic vs. foreign goods, which should, in time, lead to an improvement in the trade balance. In the short term however it will lead to an increase in prices due to the higher price of imports. To prevent the exchange rate falling (and import prices increasing) more than they consider desirable, the Bank of England may wish to also use forward guidance with SMC to create expectations of future interest rate increases.

**The effect on the banking sector:** For banks, the increase in economic activity and private sector incomes, and the decrease in the private sectors’ leverage, increases the likelihood of bank loans being repaid. This has the effect of increasing bank profitability and allowing leverage to be reduced and capital to be rebuilt, making the banking system safer and more resilient. Healthier balance sheets and higher profits in both the bank and non-bank private sectors increase the willingness of banks to fund investment, from both a regulatory and prudential perspective.

**The effect on the balance sheet of the non-bank private sector:** In addition to the effects outlined above, by creating new bank deposits held by households and businesses, SMC will also increase the net stock of assets held by the private sector. This will have implications for private sector solvency, leverage, liquidity, and thus financial stability.

For the non-bank private sector, SMC increases the net stock of assets, in the form of money (bank deposits). This has the effect of increasing non-bank wealth, and therefore private sector equity.<sup>36</sup> As mentioned previously, the increase in equity makes the private sector more resilient to a fall in the price of assets – increasing the private sectors quantity of safe, liquid, assets and so ‘margins of safety’. (Minsky, 1983)

**The effect on the balance sheet of the banking sector:** For banks, the increase in their customers’ equity makes lending less risky. Banks also benefit from an increase in liquidity, because SMC increases the supply of central bank reserves that the banking sector will hold in aggregate. Normally, banks have to borrow reserves from the central bank, with the loans (technically sale-and-repurchase agreements) collateralised with other liquid assets. However, SMC increases the stock of central bank reserves, freeing up banks’ liquid assets for other purposes. The increase in both bank reserves and liquid assets not required to collateralise bank borrowing increases bank liquidity, reducing the likelihood of cash flow insolvency and increasing the ability of individual banks to respond to bank runs.

**The effect on the balance sheet of the government sector:** For the central bank, its liabilities (in the form of reserves) have increased as have its assets (in the form of government securities). Meanwhile, technically the government has a new liability: the securities it sold to the central bank.<sup>37</sup> Figures 11, 12 and 13 show these balance sheet changes. The accounting for SMC is covered in further detail in part 2.

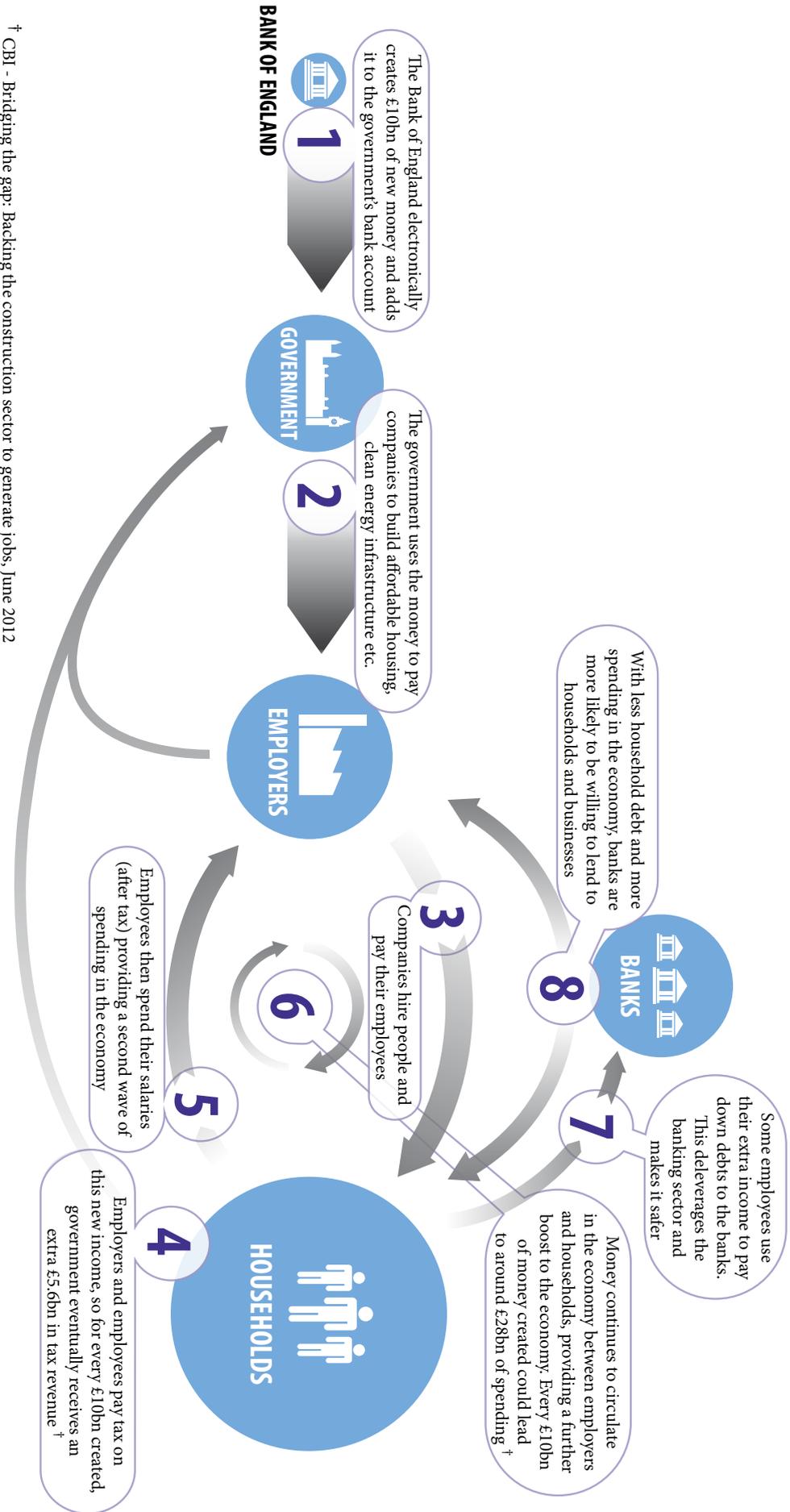


fig. 10 – Effects of Sovereign Money Creation

<sup>†</sup> CBI - Bridging the gap: Backing the construction sector to generate jobs, June 2012

## USING SOVEREIGN MONEY CREATION AS A CONVENTIONAL POLICY TOOL

So far, the discussion has focussed on the effectiveness of SMC when conventional policies are ineffective, such as in a recessionary environment where businesses and households want to reduce their debts. This however does not preclude the use of SMC as a conventional policy tool. As part of a broader set of economic reforms Henry Simons (1936), Abba Lerner (1943), and Milton Friedman (1948) recommended the government finance either all or part of its spending through money creation (see Appendix 2 for more details).<sup>38</sup> In this section we build on these ideas to examine the case for extending the use of SMC outside of depression or low growth environments.

### The weaknesses of interest rates as a monetary policy tool

During normal downturns, adjusting interest rates is seen as an effective mechanism by which to return the economy to a stable growth path. Lowering interest rates makes the private sector more willing to take on debt, which increases money creation, spending, and therefore aggregate demand.<sup>39</sup> However, this relies on there being businesses or households that are willing to take on further debt. During a balance sheet recession, when most businesses and households are unwilling to borrow, conventional monetary policy is ineffective at increasing demand. SMC bypasses this problem by providing a way to increase spending that does not require an increase in private debt.

However, even in normal recessions or growth slowdowns, using interest rates to increase demand may not lead to sustainable long term growth. In particular, if normal recessions are also associated with a build up in the level of private debt vis-à-vis income, then cutting interest rates may simply put off an inevitable debt-to-income readjustment, and in doing so set the stage for a larger downturn in the future.

This section begins by addressing the question of how economic expansions are financed. Expansions that are correlated with an increase in the private sector's debt-to-income ratio will be shown to be unsustainable. For the recessions that follow these expansions, cutting interest rates will stimulate the economy, but at the costs of a further increase in the private debt to income ratio and therefore an even bigger downturn in the future. As a result, the use of interest rates as a monetary policy tool brings the central bank's two

mandates – price stability and financial stability – into conflict with each other. The financial crisis of 2007-08 that followed the 'great moderation' (which included the dotcom bust of the early 2000s and the Greenspan Put) will be discussed as an example of this phenomenon. Finally, the use of interest rates to stimulate the economy in a downturn will be contrasted with using SMC.

### Unsustainable vs. sustainable expansions

For an economy to grow requires that spending on goods and services increases. As Minsky put it:

“If income is to grow, the financial markets, where the various plans to save and invest are reconciled, must generate an aggregate demand that, aside from brief intervals, is ever rising. For real aggregate demand to be increasing, . . . it is necessary that current spending plans, summed over all sectors, be greater than current received income and that some market technique exist by which aggregate spending in excess of aggregate anticipated income can be financed. It follows that over a period during which economic growth takes place, at least some sectors finance a part of their spending by emitting [i.e. issuing] debt or selling assets.

For such planned deficits to succeed in raising incomes it is necessary that the market processes which enable these plans to be carried out do not result in offsetting reductions in the spending plans of other units. . . . For this to take place it is necessary for some of the spending to be financed either by portfolio changes which draw money from idle balances into active circulation (that is, by an increase in velocity) or by the creation of new money.” (Minsky, 1984, p.6) [our addition in square brackets]

Minsky recognised that while increased borrowing may finance an increase in spending or investment, it may also finance speculation. During any period of economic expansion the value of financial assets tends to increase due to an increase in business profits. This draws in speculators who borrow to purchase assets in the hope that they will be able to profit from selling the assets at a higher price in the future. The increase in demand for these assets pushes up their price, which draws in more speculators. While the increase in

fig. 11 – Sectoral balance sheets before SMC takes place



fig. 12 – Sectoral balance sheets just after SMC takes place

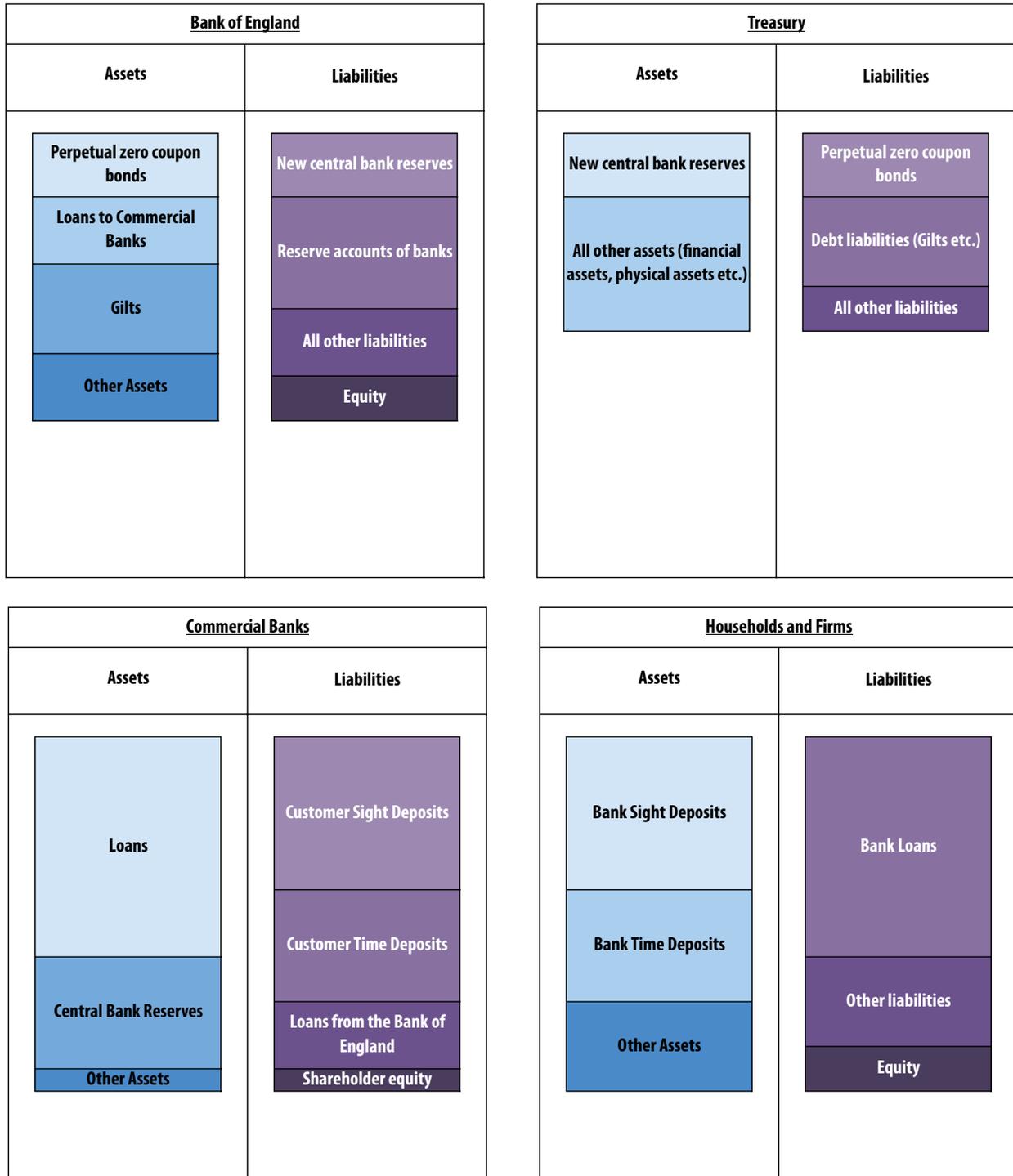


fig. 13 – Sectoral balance sheets after fiscal expansion financed by SMC takes place



asset prices partially increases spending on goods and services due to the wealth effect, this increase in spending is small relative to the increase in debt (because the propensity to consume due to increased wealth tends to be small). Consequently, the debt-to-income ratio increases:

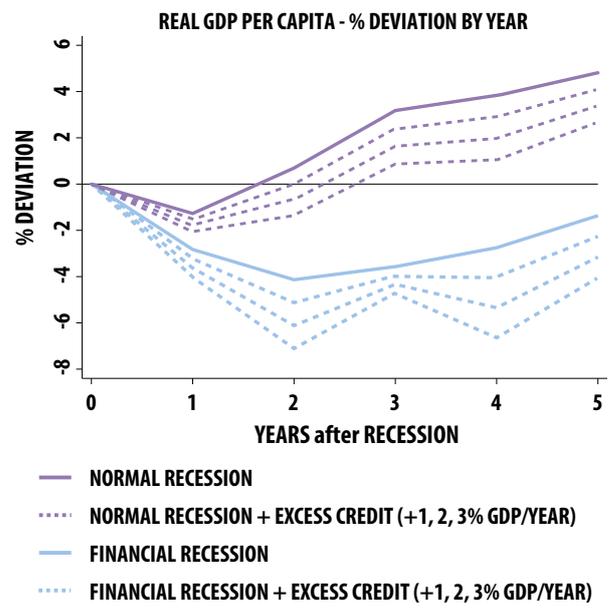
“During a protracted expansion dominated by household and business deficits [borrowing] the ratio of household and business financial commitments to income rises, whereas in an expansion dominated by government deficits the ratio of private commitments to income decreases.” (Minsky, 1963, p. 412)

However, private debt can only increase faster than income for a limited time before the cost of servicing the debt becomes unsustainably large, and defaults become increasingly likely. Therefore, as Wray (2002) points out: “not all expansions are created equal – an expansion that is led by private sector deficits [i.e. borrowing] is inherently unstable and unsustainable”. Consequently, “when the prospective gain is outweighed by the reluctance and inability to undertake additional deficits, the private sector-led expansion must come to an end” (Wray, 2002) [our addition in square brackets]. In short, an expansion based solely on an increase in private sector indebtedness, since it inevitably leads to borrowing for unproductive purposes and an increase in the debt-to-income ratio, is unsustainable in the long run.

As a result, domestic private sector led expansions are characterised by a build-up of debt and credit relative to GDP, and the size of this build-up directly influences the length and duration of the subsequent downturn (see figure 14):

“...that credit booms matter as a financial crisis risk factor is a rather narrow conclusion, and that a more general and worrying correlation is evident. During any business cycle, whether ending in a financial crisis recession or just a normal recession, there is a very strong relationship between the growth of credit (relative to GDP) on the upswing, and the depth of the subsequent collapse in GDP on the downswing.” Taylor (2012)

fig. 14 - Growth of credit on the upswing vs. depth and duration of subsequent recession.



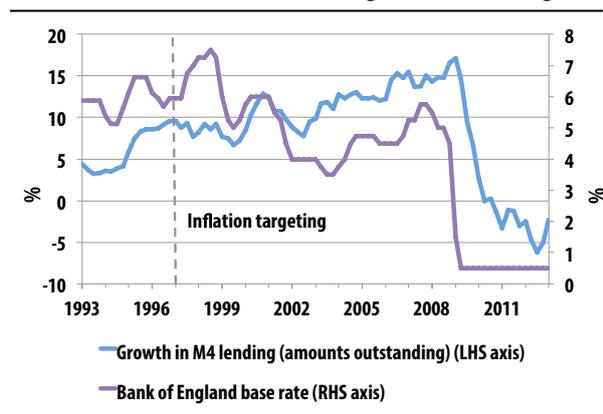
### Central bank reactions to downturns

Normally, the central bank responds to recessions by cutting interest rates. However, this may be an inappropriate policy: if the recession is a result of the private sector attempting to lower its debt-to-income ratio (e.g. after a debt financed expansion), then cutting interest rates, if it works, will simply stimulate the private sector to borrow more. Essentially, the response of the central bank to a recession in which the private sector is attempting to reduce its debt is to incentivise the private sector to increase its debt. There is a slim chance that such a strategy could lead to a sustained recovery in the long term. If a reduction in interest rates is to create a sustainable recovery, it must lead to income growing at a faster rate than debt, to allow the private sector to reduce its debt-to-income ratio. In practice, the growth in credit and debt must be more than matched by an increase in GDP, so that the burden of debt relative to income decreases rather than increases. This requires the reduction in interest rates to disproportionately incentivise transactions that contribute to GDP and therefore boost the incomes of those businesses and households that have increased their borrowing. Yet there is no reason to think that this may be the case. Just as likely is that the reduction in interest rates will incentivise an increase in borrowing for unproductive purposes, reflating asset prices that had been deflated by the earlier reduction in borrowing.

For example, in a recession caused by a small reduction in property prices (lowering the wealth effect on consumption), a lowering of interest rates could reflate property prices (by lowering the price increase at which speculation on property is expected to be profitable). The increase in demand for property will push up property prices, which will increase spending in the short run (due to the wealth effect) and lead to a temporary recovery. However, income will not be increased by enough to offset the increase in debt, and so the debt-to-income ratio will further increase. For example, Calomiris et al. (2012) find that, on average, a single dollar increase in housing wealth raises consumption by only five to eight cents.

Consequently, if lower interest rates stimulate lending that does not lead to an increase in GDP, then the ratio of debt-to-GDP will increase further. Therefore, as interest rates tend to be cut in response to recessions or even growth slowdowns, over time the private sector's debt-to-income ratio tends to rise (see figure 15).

fig. 15 - Bank of England base rate vs. growth in lending rate



This cycle of lowering interest rates and rising private debt-to-income ratios cannot continue indefinitely. As long as lower interest rates increase the level of debt faster than incomes, cutting rates only gives the economy a temporary reprieve. The continual increase in the level of debt relative to income creates a situation in which an ever-increasing proportion of income is used to service debt. This leads to increasing profits and wages in the financial sector (and financial innovation). In addition, the increase in debt-to-income ratios also increases the vulnerability of the economy to a fall in income: at high debt-to-income ratios, even small falls in income can lead to default, or debt deflations (Minsky, 1984, Chapter 1).

If the increase in lending reflate an asset price bubble, then the reduction in interest rates may simply be setting the stage for a longer and deeper recession in the future. Once the burden of private debt becomes too high, the private sector stops borrowing, assets prices reverse and a recession sets in due to the fall in financial wealth. Without the intervention of the authorities a debt deflation process and/or a financial crisis can also be triggered.

### The long-term central bank policy trilemma

The use of interest rates as the sole monetary policy tool brings the central bank's two mandates – price stability and financial stability – into conflict with each other. By using interest rates to attempt to maintain price stability, the central bank forfeits its ability to meet its objective of maintaining financial stability, as a low interest rate can incentivise speculative behaviour. Essentially, the central bank has been asked to maintain aggregate demand at a level which maximises long term economic output, but has not been given the tools that allow it to achieve this goal. In the run up to the financial crisis, the goals of monetary policy were incompatible with the central bank's toolset, which only consisted of interest rates. This leads to a trilemma for the central bank in the long term – it can only choose two out of three options from: using interest rates as a policy tool, the price stability mandate, the financial stability mandate (figure 16).

For example, if the central bank wants to control prices (inflation) using interest rates, then it must give up its ability to control financial stability in the long term, unless it happens that price stability and financial stability require exactly the same interest rate at all times.

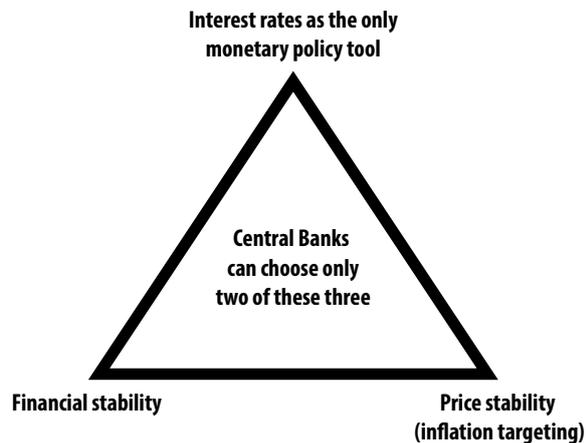
Alternatively, the central bank may choose to use interest rates to maintain financial stability, but this is likely to lead to fluctuations in the inflation rate, as interest rates may need to be increased to restrict bank lending for asset purchases, even as borrowing and spending in the real economy remains stable (and therefore requires a stable interest rate).

Finally, if the central bank wants to maintain both price stability and financial stability, but only has the interest rate as a policy tool then this becomes impossible, as the central bank has two targets but only one tool. Consequently, unless the maintenance of financial stability and price stability require the same interest rate, the central bank will be forced into choosing an

interest rate that allows it to hit one target or another, or a 'compromise' that hits neither target.

Thus, although probably unwittingly, since 1997 (when inflation targeting started in the UK) the Bank of England chose price stability and the interest rate as a policy instrument and sacrificed financial stability.

fig. 16 - The Central Bank Policy Trilemma



## Benefits of Sovereign Money Creation as a conventional policy tool

Given the above, the benefits of giving the central bank an additional tool, SMC, in addition to interest rates, are clear:

- First, SMC creates additional income for the private sector that does not necessitate an increase in private sector debt. This allows for more stable expansions, as income is not solely dependent on increasing private sector borrowing (or increasing net exports).
- Second, the increase in assets (bank deposits) increases the net assets of the private sector, increasing both its liquidity and its ratio of safe assets to debt. This strengthens the private sector's balance sheet in the event of a downturn by increasing the quantity of assets whose values are not affected by economic downturns (which includes bank deposits).
- Third, it allows monetary policy to address the issue of excessive leverage in the private sector (for instance by increasing interest rates) without creating the conditions in which the increase in interest rates lead to defaults, recession, or financial fragility. SMC allows income, aggregate demand, and therefore spending, to be maintained, even as

### The 'Great Moderation' as an example of the trilemma

The dotcom bust of 2001 is an example of an unsustainable expansion driven by increasing private indebtedness:

"During the last seven years [up to 1999] a persistently restrictive fiscal policy has coincided with sluggish net export demand [in the US], so rapid growth could come about only as a result of a spectacular rise in private expenditure relative to income. This rise has driven the private sector into financial deficit [i.e. borrowing] on an unprecedented scale ... If spending were to stop rising relative to income without there being either a fiscal relaxation or a sharp recovery in net exports, the impetus that has driven the expansion so far would evaporate and output would not grow fast enough to stop unemployment from rising. If, as seems likely, private expenditure at some stage reverts to its normal relationship with income, there will be, given present fiscal plans, a severe and unusually protracted recession with a large rise in unemployment." (Godley, 1999) [Our addition in square brackets]

The central bank's reaction to the dotcom bust and subsequent downturn was to slash interest rates (the 'Greenspan put'). This inflated another asset price bubble, this time in the property market and the market for mortgage-backed securities. The increase in wealth this generated increased private sector spending for a limited period of time, until the debt-to-income ratio again became too large, culminating in the 2007-08 financial crisis.

This is one explanation for the 'Great Moderation': The lower volatility in the business cycle between the early 1990s and 2007 was a direct result of the central bank managing to offset any recession caused by excessive debts by incentivising the private sector to go even further into debt. Essentially, the central bank managed to interrupt the private sector's attempt to lower its debt-to-income ratio by lowering interest rates. This also explains why the 'Great Moderation' ended with a global financial crisis: when the private sector debt-to-income ratio became too large, even cutting interest rates to zero could not incentivise the private sector to take on any more debt.

interest rates are increased.<sup>40</sup> This replaces private bank money creation with central bank money creation and non-debt based increases in income.<sup>41</sup>

### Central bank targets when Sovereign Money Creation is used as a conventional tool

An important benefit of using SMC in addition to current monetary policy tools is that SMC allows the central bank to fulfil its democratically mandated targets to keep output at potential without increasing inflation or creating financial instability. With the addition of SMC to the central bank toolset, policy-makers no longer face a trade-off between financial stability and price stability/economic growth.

For example, take the case of a potential asset price bubble, driven by bank lending for asset purchases. The central bank could respond by increasing interest rates to discourage further borrowing. Alternatively, given the negative effect of high interest rates on investment and the ineffectiveness and long and variable lags in conventional monetary policy, the central bank could use a tool other than the interest rate limit bank lending.<sup>42</sup> However, if it did manage to reduce lending in this way, the resulting slowdown in spending (due to a smaller wealth effect and lower lending for GDP related

transactions) would slow growth if implemented on its own. Consequently, the central bank may be unwilling act to slow the unsustainable growth in asset prices.

In contrast, if the central bank also was able to increase spending through SMC while at the same time increasing interest rates to burst the asset price bubble (or some other policy restricting bank lending, such as an increase in countercyclical capital ratios) then asset prices could be deflated without negatively affecting income or growth. By increasing SMC at the same time as bank lending is reduced (due to interest rate/capital ratio increases), the central bank replaces unsustainable private spending fuelled by increasing assets prices and private debt-to-income ratios with growth fuelled by an increase in spending (that doesn't rely on increasing private debt). This allows the private sector to pay down debt to a more sustainable debt-to-income ratio without sparking a recession. Consequently, the use of SMC during downturns makes a future recession less rather than more likely, whereas not using SMC and instead lowering interest rates may make a financial crisis more likely. Once the private sector has reached its desired debt-to-income ratio, borrowing can increase, SMC can be reduced, and private sector led growth can return.

## CONCLUSION

“Depression occurs only if the amount of money spent is insufficient. Inflation occurs only if the amount of money spent is excessive. The government ... by virtue of its power to create or destroy money by fiat and its power to take money away from people by taxation, is in a position to keep the rate of spending in the economy at the level required to fill its two great responsibilities, the prevention of depression, and the maintenance of the value of money.

Up till now governments have shirked these responsibilities, seeking refuge in an alibi of helplessness ... nearly all states have nearly all the time permitted depressions to begin, to grow, and to establish themselves without calling into play their power to create the money demand which would have made the depression impossible.” Abba Lerner (1947)

The 2007-08 financial crisis showed how dangerous lending booms can be for an economy's health, particularly when the lending finances the purchase

of unproductive assets (such as property and financial assets). While the government's policy actions in the wake of the financial crisis may have prevented a debt-deflation and a depression, they did not lead to a recovery, at least initially.

A sustainable recovery requires a lower private sector debt-to-income ratio. Yet since the crisis government policies have encouraged further private sector borrowing for unproductive purposes. Meanwhile, the government is attempting to reduce its own debt, seemingly oblivious to the fact that the UK economy is currently suffering from a crisis of private debt, not public debt. At the time of writing public debt in the UK is at 74% of GDP, whereas (non-financial) private sector debt is at 190% of GDP. The interest rates being paid on public debts are also far less onerous than those being paid on private debts. By focusing on reducing its smaller and less onerous debts, the government reduces private sector incomes and so makes a reduction in the private sector's debt-to-income ratio harder to achieve. As a result, the government is making

a future crisis and recession more – rather than less – likely.

Yet it needn't be this way. This paper outlined how the government could finance a fiscal expansion through 'Sovereign Money Creation'. This expansion could take the form of an increase in spending, a reduction in taxes, or a citizen's dividend. Such steps would lead to an increase in private sector income, which would allow households and businesses to reduce their debt burden to a more sustainable level. Amongst other things it would increase GDP, employment, and bank liquidity, as well as making the economy more resilient to future shocks.

While the creation of money to fund a fiscal expansion has been described as a 'taboo', it should be noted that in the UK, until 2000 it was standard practice to finance a part of the government deficit with money creation. Furthermore, the question must be asked as to why it is acceptable for banks to create money for speculative purposes, but not acceptable for the government to create money when it is so clearly in the interest of both the public and the wider economy for them to do so. Martin Wolf, chief economics commentator at the Financial Times, expressed this contradiction clearly when he stated:

"It is impossible to justify the conventional view that fiat money should operate almost exclusively via today's system of private borrowing and lending. Why should state-created currency be predominantly employed to back the money created by banks as a byproduct of often irresponsible lending? Why is it good to support the leveraging of private property, but not the supply of public infrastructure? I fail to see any moral force to the idea that fiat money should only promote private, not public, spending." Martin Wolf (2013)

Of course, there are concerns that the power to create money could be overused. However, the governance structure outlined in this paper ensures that there is clear separation between monetary and fiscal policy. Consequently, there would be far greater control over the use of SMC than there currently is over the creation of money by the banking sector.

The current economic recovery is built on the same foundations that led to the financial crisis: rising private sector debt. The real risk is therefore not that Sovereign Money Creation will be abused, but rather that it won't be considered in the first place.

## Part 2:

# Sovereign Money Creation in detail

The following section discusses how Sovereign Money Creation could be carried out in greater detail. We first look at the types of fiscal expansions that could be financed by Sovereign Money Creation and the characteristics these projects must have if they are to be successful in boosting GDP. We then identify some example projects that may be suitable.

The second section looks at the technical aspects of SMC. It starts by considering the problem inherent in cooperation between the fiscal and the monetary authorities – how to keep monetary and fiscal decisions separate. It also addresses the target of monetary policy, the accounting for SMC, how interest rates could be set under SMC, the difference between making QE permanent and SMC, and the effect of SMC on the national debt.

### HOW SOVEREIGN MONEY COULD BE DISTRIBUTED

Before discussing the different types of expansions that SMC could finance, it is important to be aware that different types of fiscal expansions have different economic effects. For example, an increase in government spending tends to have a larger economic effect than a tax cut, particularly in over-indebted economies where increases in income may be saved or used to pay down debts. Furthermore, among different spending increases, those that add to the capital stock and productive capacity of the nation will have a different economic effect than those that don't.

This means that the central bank will need to know how any newly created money would be used before it can assess the likely effect of SMC and make a decision on how much money should be created. Therefore, before any decision on SMC is taken, the government must inform the central bank how it intends to use the new money. With this information, the MPC can then calculate the likely macroeconomic effects of creating money for this purpose and will be able to determine the correct amount of money to create in order to hit their target. (This requirement for the central bank and the government to cooperate creates governance problems, which are addressed in more detail later in this section.)

#### Tax cuts/holidays

Tax cuts or tax holidays financed by SMC can be relatively easy to apply: the taxes selected by government are simply reduced for a period of time. Alternatively, tax rebates may be given on taxes already paid, which neatly sidesteps the problem of predicting uncertain future levels of economic activity, the tax revenues associated with them and the consequent tax cut required to absorb the specific amount money created via SMC.

The speed of implementation is crucial to the effectiveness of SMC. As Price et al. (2011) note, "Tax changes can in some circumstances be done very fast – for instance the rate of VAT can be changed quickly and so can National Insurance Contributions (NICs) or income tax rates". However, "Changes to the structure of taxation or tax credits take longer. Most changes to benefits take time to model, agree and implement. Even simple changes might require at least 6 months from announcement to implementation." Consequently, temporarily cutting NICs or VAT may be a quicker and more effective way of implementing SMC.

However, distributing newly created money through tax cuts may not produce the greatest increase in spending and output. Only a portion of the money distributed via a tax cut will translate into additional spending, as some recipients may either save the extra

funds or use them to pay down debts. This is especially likely in an over-indebted economy where people are trying to reduce their debts.

In addition, certain tax cuts might disproportionately benefit the wealthiest, who are more likely to save than to increase their spending. As the aim of SMC is to stimulate the economy by increasing spending, it is important that the money created through SMC reaches the people who are most likely to spend (i.e. have a higher marginal propensity to consume).

### Spending increases

An increase in spending will have a larger effect than a tax cut, as all of the money created through Sovereign Money Creation will translate into additional spending. However, there are some specific characteristics that spending projects must have to be successful.

First, the projects funded via SMC will need to be pre-determined and ‘shovel ready,’ to ensure the money created can be spent into the economy relatively quickly. Normally the government’s spending plans – and in particular longer-term investments – are drawn up before the level of tax receipts is known. Consequently, given pre-determined spending plans, the government may struggle to spend the money created via SMC effectively, quickly and on worthwhile projects. If spending of the new money takes more than a few months, then the economic conditions that necessitated SMC may have changed, and with them the need for SMC.<sup>43</sup> Ensuring that SMC is used to fund shovel-ready projects has the added benefit of reducing the long and variable lags implicit in conventional monetary policy.

Second, the projects presented to the MPC should be ‘standalone’ – that is, the completion or success of a project financed by SMC should not depend on there being additional SMC in the future, as the amount created each month through SMC will fluctuate depending on the judgements of the MPC and the state of the economy. In addition, the project should not impose significant future spending obligations on the government. For this reason, using SMC to provide a service would be inappropriate, as the end of SMC would imply the end of the service.

Third, the projects funded by SMC must be scalable and able to absorb greater or lesser amounts of sovereign money. For example, large infrastructure projects that take a number of years to complete would be unsuitable, as the central bank may not create enough

money to complete the project. In this situation, the government would need to raise additional finance, divert money away from other sources, or stop or delay the project (or some combination of the three). Knowing that these were the options open to the government, the MPC could, through varying SMC, gain undue influence over fiscal policy.

For SMC to have the greatest impact on GDP it is also desirable that the projects increase the supply capacity of the economy and/or have large economic multiplier effects. Larger multipliers can be ensured by spending sovereign money into industries that source their inputs (including labour) domestically and are dominated by domestically owned firms (so profits are not repatriated).

Finally, it would be beneficial if the projects do not displace private sector investment i.e. it would be better if spending occurred in areas in which the private sector was unwilling or has failed to invest. In this case, public spending may even “lever in” private sector spending.

To sum up, the spending projects that SMC can finance must fulfil the following criteria:

- They must be relatively quick to implement
- The economic effects must occur relatively quickly
- The projects must stand alone, and
- The projects must not create large future spending obligations on the government.

In addition, Sovereign Money Creation would be more effective if:

- The projects increase the supply capacity of the economy
- The projects do not displace private sector investment

### Distributing money directly to citizens

One direct way of distributing sovereign money is via a one off equal payment to all citizens, sometimes described as a “citizens’ dividend”. Such a policy was used in Australia in 2009 as a response to the financial crisis: all Australian resident taxpayers who paid net tax in the 2007-08 financial year received a cheque for \$900. However, while a one-off payment to citizens would be an efficient and effective way of getting new money into the economy, it shares some of the drawbacks of a tax cut, in that some of the money may

be saved instead of spent or used to pay down debts, reducing the effect of the SMC on economic output.

### Using multiple channels of distribution

The government could also specify multiple uses for sovereign money, including a mix of spending projects, different tax cuts, and direct distribution to citizens. The Treasury would be responsible for deciding in advance how money would be split between these uses (to prevent the central bank determining fiscal policy).

Using sovereign money to fund a mix of uses can help to avoid the capacity issues or bottlenecks that could occur if all new money was channelled through one particular sector. By ensuring that sovereign money goes into sectors with spare capacity, the additional spending will have a greater effect on output without creating inflationary pressure. In addition, using a mix of tax cuts and citizens dividends can help to spread the new money more widely across the economy, rather than concentrating it in a few spending projects.

### Why sovereign money should not be used to pay down the national debt

Given the level of discourse in UK concerning the national debt, the government may be tempted to use the money created by the central bank to pay off some of its outstanding debt. However, by taking this course of action, the government would undermine the economic mechanism through which SMC works. Rather than increasing nominal demand in the real economy, it would maintain demand at its current level. Using the money to repay debt would essentially have the same effect as if the Bank of England committed to more QE (assuming that additional QE would not be reversed)<sup>44</sup> fuelling asset price inflation but delivering little or no benefit to the real economy.

### Some suitable spending projects to be funded by Sovereign Money Creation

As outlined above, any projects financed by SMC must fulfil certain criteria – they must be relatively quick to implement, the effects must occur relatively quickly, they must stand alone, and they must not create large future obligations on the government. Below are two example projects that meet these criteria. This is not an exhaustive list and there are potentially many other projects that could be implemented, including the development of renewable energy infrastructure.

### Retrofitting and improving energy efficiency of homes and buildings

One example of a project that could fulfil the criteria outlined above is retrofitting houses to increase energy efficiency. According to Boardman et al. (2005), the UK housing stock is “one of the oldest and least efficient housing stocks in Europe.” Consequently, retrofitting could help lower carbon emissions, while saving people money on heating their home. By reducing energy demands across the UK, it would also reduce pressure on the existing energy infrastructure. It would also lead to an increase in employment.

Neale (2010) estimates it would take 200,000 workers ten years to insulate, draught proof, and install local renewable energy in and on top of homes and buildings. “Each house will need a different combination of insulation, glazing, draught proofing, boiler replacement and onsite renewable energy. ... Once this work is done, emissions from heating homes and water will have been cut by about 40%.” This has an additional benefit of reducing carbon emissions and helping to alleviate pressure on an overstretched energy network in the UK.

### Building affordable housing

Another project that could be put forward to receive the money created by SMC is the construction of affordable housing. Consensus opinion is that the UK is currently building far fewer homes than it needs to every year:

“England is now delivering fewer homes than in any peacetime year since the First World War, even before accounting for a much larger population and smaller households. As a result, the country faces a large and accumulating shortfall between the homes we need and the houses we are building – of approximately 100,000 to 150,000 homes a year. If we remain building at current levels, we build a million fewer homes than we need every seven years. ... To allow this would mean accepting a continued fall in homeownership. It would mean accepting continued year on year above inflation rises in rental costs – squeezing the incomes and living standards of an ever growing section of society. It would mean dramatically raising the housing benefit bill, leading to further pressure on the public finances. Doing nothing would mean access to homeownership would become the preserve of the very few, and accessible only by taking on large levels of mortgage debt – increasing both

household and national vulnerability to economic shocks.” Griffith and Jefferys (2011)

Unfortunately, the private sector is unlikely to meet the demand for new houses. Even before the financial crisis, the construction of new homes hardly increased in response to rising house prices. Since the crisis the likelihood of UK house builders increasing housing starts is even lower, as “expanding private output would require taking on a level of risk that is not attractive to either their lenders or shareholders.” (Griffith & Jefferys, 2011)

As the market is failing to provide the UK with the optimum number of new houses, there is a clear case for government intervention, at least in the short term. There is also precedence, as the same report notes:

“Central government spending is the most responsive lever that politicians can pull to deliver new housing quickly. Successive governments have a strong record of spending directly on building new homes and the delivery infrastructure is already in place. Central government can channel money through existing channels (using the Homes and Communities Agency) and have delivery agents who, if given appropriate subsidy, could build homes in the very short term – this year and next. Indeed, these channels are currently underutilised following 2010 Spending Review cut in capital investment in housing from £8.4bn for the period 2008-11 to £4.5bn for 2011-15. This represented a 63% cut in real terms – the biggest single cut to any capital budget across government. Reversing this cut would have quick and effective impacts.”

However, given the UK government’s commitment to cutting the deficit, an increase in house building financed from usual government budgets would require the diversion of funds from elsewhere. Using SMC, this need not be the case.

Looking at the effect of an increase in government investment for house building on growth Price et al. (2011) find that every additional pound of spending on construction generates an additional £2.09 of economic output and 56p increase in the tax take. A paper by L. E. K. Consulting (2009) finds an additional impact of £0.75 for every pound spent, taking the total effect to £2.80. This compares favourably to other forms of capital expenditure, as well as spending increases and tax cuts. What is more, the speed of these effects is relatively quick and there is little leakage overseas: labour is employed from within the country

and much of the inputs are sourced from the UK. Also most major house-building firms are UK owned, so profits remain in the UK. Research by the Centre for Economics and Business Research (2011) finds similarly, estimating that:

“If house building were to increase gradually to 300,000 dwelling starts between 2012 and 2015, some 201,000 extra permanent jobs in the construction sector would be created, and the sector would provide an extra £75 billion contribution to GDP over the time period, compared with CEBR’s current, more modest forecast of new housing starts.”

They estimate that this would have the effect of reducing rents by 2015 by 11%, increase the standard of living of those under 35 by 4%. Further, larger fall in rents and increase in standards of living could follow. The report goes on to note that:

“The massive house building boom in the 1930s helped drive the UK recovery during this period and partly explains why the UK fared relatively well compared with other developed nations during the Great Depression. 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.”

Clearly therefore increasing the number of houses built in the UK is not beyond the realms of possibility, given the level of slack in the UK economy and the historical precedent. There is also little risk of crowding out due to resource use: there are a large number of unemployed people with the relevant skills, excess capacity in the market for inputs, and potentially large amounts of land that could be built on:

“Housing starts and completions in England are running 25% below the long-term average (using the 20 years pre crisis), despite already bouncing 15% in the first half of this year from the average of 2012 levels. Reverting to the long-term mean could imply a one-third increase in housing starts and completions. To put this in context, in 2012 there were approximately 100,000 housing starts and in first half of 2013 they are running at an annualised rate of 115,000. The long-term average pre-crisis we calculate to be about 155,000, and our conversations with leading house builders suggest that

it would not be implausible for them to close this gap, in part thanks to larger land banks ... [which are] running at 5.7 years of average stock versus 3.8 years for the prior 15 years. If these stocks returned to previous levels, we could see an additional 100,000 houses being built, which equates to about a year's supply based on current completion rates." (Baker and Goodhart, 2013)

Baker and Goodhart also make the point that "Housing Associations are far less keen to build, given that they have less access to finance these days." Furthermore, "One by-product of bank regulation has been to create massive disincentives for long-dated loans

to social housing. Every bank we speak with is reducing its book." Consequently it would seem that using SMC to finance the building of houses would pick up the artificial slack in the housing market created by regulation. However, any money created for this purpose would have to take account of possible supply constraints and bottlenecks, although given the high levels of spare capacity in the construction sector at present and the fact that construction is a relatively low skilled job, this shouldn't be too much of a problem. Consequently, an increase in house building is likely to lead to an increase in employment and output rather than prices. By providing affordable housing it would also have wider social benefits.

## TECHNICAL ASPECTS OF SOVEREIGN MONEY CREATION

### Maintaining central bank independence under SMC

SMC involves cooperation between the monetary and fiscal authorities, and therefore requires special governance procedures to prevent politicians gaining control over monetary policy levers and unelected central bankers gaining undue influence over fiscal policy. The process for carrying out SMC outlined previously goes some way to ensuring that these monetary and fiscal decisions are kept separate. This section builds on that process.

The government manages fiscal policy (spending, taxing and borrowing) while the central bank manages monetary policy (interest rates/money creation). Current convention is that the central bank should have operational 'independence' (independence over interest rates) from central government, so that the government is not able to abuse monetary policy for political reasons (for example, by lowering interest rates in the year before an election). Because SMC requires a large degree of cooperation between the central bank and the Treasury, certain safeguards have to be put in place to maintain central bank independence and prevent either the central bank or the Treasury having undue influence over the other.

In his 2003 speech to the Bank of Japan, Bernanke (2003) makes the point that central bank independence is not an end in itself, but rather a means to an end:

"Economically ... it is important to recognize that the role of an independent central bank is different in inflationary and deflationary environments. In

the face of inflation, which is often associated with excessive monetization of government debt, the virtue of an independent central bank is its ability to say "no" to the government. With protracted deflation, however, excessive money creation is unlikely to be the problem, and a more cooperative stance on the part of the central bank may be called for."

Central bank independence was intended to help the economy to maintain output at its highest possible level without increasing inflation. In large part this meant the central bank being able to act to offset too much aggregate demand (which would result in inflation), during periods in which the private sector was increasing its spending and borrowing. However, in periods in which the private sector is deleveraging, the problem is not too *much* spending, but too *little* (McCulley & Pozsar, 2013). In this environment the institutional structure (an independent central bank with a limited remit) may constrain the available policy options. For example, during periods of excess capacity in which conventional and unconventional monetary policy tools are ineffective (due to high levels of private debt), the ability of the central bank to 'say no to the government' does not help the authorities to keep output at potential. Instead what is required is for the central bank to be able to 'say yes' and support the government's efforts to raise aggregate demand. The authorities have become constrained by conventions and rules that they themselves put in place – rules that were intended to deal with a different set of circumstances. For this reason McCulley and Pozsar (2013) argue that:

“...central bank independence is not a static state of being. Rather, it is dynamic and highly circumstance dependent: during times of war, deflation and private deleveraging, fiscal policy will inevitably grow to dominate monetary policy and during times of peace, private leveraging and inflation, monetary policy will inevitably grow to dominate fiscal policy.”

It is however possible to maintain central bank independence while at the same time removing the self-imposed constraints that prevent the authorities from keeping output at potential. As Bernanke (2003) notes:

“Under the current circumstances, greater cooperation for a time between the Bank of Japan and the fiscal authorities is in no way inconsistent with the independence of the central bank, any more than cooperation between two independent nations in pursuit of a common objective is inconsistent with the principle of national sovereignty.”

To avoid cooperation impinging on the independence of the central bank, or giving the central bank power over the Treasury, SMC must be designed in such a way as to keep the monetary and fiscal decisions separate. Monetary decisions – i.e. how much money to create – should remain with the central bank, while fiscal decisions – i.e. what to spend the money on – should remain with the government. This can be achieved by organising the procedure for SMC in such a way that the government first decides what any new money would be used for, before the central bank takes a decision on how much money to create. Although counter-intuitive, making the decision in this order allows the central bank to assess the likely economic impact of any SMC, given the various distribution channels that the government proposes to use it for.

The underlying principle in separating the monetary and fiscal decisions is to prevent conflicts of interest. As long as those who take the decisions over how much money to create cannot influence those who take the decisions over how the money is to be spent, and vice-versa, there is no possibility of abuse.<sup>45</sup> With SMC the central bank still only has control over monetary levers: it can affect the price and quantity of money through either conventional or unconventional methods. And the government still only has control over fiscal levers: it still chooses how to allocate spending and whether to issue bonds or alter the level of taxes.

The central bank's role is still to maintain the level of aggregate demand in line with the supply capacity of

the economy. Likewise, the government's role is to alter the composition of aggregate demand (and supply), in line with its democratic mandate. The difference is that under SMC the central bank works with the government to increase government spending, whereas with conventional monetary policy the central bank attempts to influence the private sector to increase its private borrowing and spending.

### The target of monetary policy under SMC

SMC is fully consistent with the existing monetary policy targets set by the government. Most central banks target both the rate of inflation and levels of output and employment. In the UK the target of monetary policy is explicitly set out in the Bank of England Act 1998:

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

- to maintain price stability, and
- subject to that, to support the economic policy of Her Majesty's Government, including its objectives for growth and employment.”

SMC has typically been proposed as an additional policy option to increase aggregate demand (and in so doing increase both employment and output) when nominal interest rates cannot realistically be lowered further. With that in mind, SMC is compatible with the Bank of England's mandate to support the government's objectives for growth and employment (objective b). However, if inflation is also below target, SMC can also be used to increase prices (objective a).

Therefore there is no need to change either the target of monetary policy or the remit of the Bank of England. In addition, the UK Treasury's 2013 review of the monetary policy framework permits the Bank of England to use ‘unconventional policy instruments’ to meet the government's monetary policy target, meaning that it already has the freedom to implement SMC. However, because SMC requires cooperation with the Treasury, the Bank of England could not proceed unilaterally, and could not make decisions over how the money created through SMC is spent. This requires that the Bank of England and Treasury have to work closely together to implement SMC effectively. The implications of this are discussed in the next section.

### The accounting for money creation under SMC

In the simplest form of SMC, the Bank of England simply credits the government's account at the Bank

of England with an amount of money. This new money can then be used to increase spending or fund a tax holiday. However, in a world with separate monetary and fiscal authorities, and within the existing accounting arrangements for central bank balance sheets, if the central bank were to create money and give it to the government, it would be expanding its liabilities without expanding its assets by a corresponding amount, and so would quickly find itself insolvent.<sup>46</sup> In order to preserve the solvency of the central bank's balance sheet, the procedure for SMC involves the central bank buying bonds issued by the government, to ensure it has a compensating asset for the new liabilities (money) it creates (figure 17). By doing so, the increase in the central bank's liabilities is matched by an increase in its assets. For example, Bernanke (2003) suggests the government should issue bonds, which the central bank buys by crediting the government's account:

“Consider for example a tax cut for households and businesses that is explicitly coupled with incremental BOJ purchases of government debt – so that the tax cut is in effect financed by money creation. Moreover, assume that the Bank of Japan has made a commitment, by announcing a price-level target, to reflate the economy, so that much or all of the increase in the money stock is viewed as permanent.”

Using normal government bonds for SMC may have some unintended consequences. First, because bonds have redemption dates, they must be rolled over as they mature if the increase in spending in one period is not to be offset by a reduction in spending in the next. Thus, the government must commit to issue bonds for the central bank to purchase in the future, regardless of its budget position. Likewise, the central bank must commit to purchase new bonds at the same rate as old bonds mature, regardless of its objectives at that time. Given uncertainty as to the future state of the economy and future arrangements between the government and central bank, these commitments may lack credibility. If this is the case, then a belief within markets that an expansion financed with new money may be reversed in the future may partially offset the expansionary effect of Sovereign Money Creation. In addition, requiring government to issue conventional interest-bearing bonds in order to allow the central bank to engage in SMC conflates management of the government's own debt with the need to increase aggregate demand in the wider economy.

Second, despite the fact that bonds purchased through SMC would be held to maturity, holding bonds that are widely traded exposes the central bank's balance sheet to fluctuations in their value. Consequently, the central bank would run the risk of (temporary) capital loss if its assets were 'marked to market'. While temporary central bank insolvency is unlikely to be a problem for either the central bank or the wider economy, if market participants (irrationally) believe the insolvency of the central bank to be a problem, there may be some negative economic effects. Therefore, if conventional bonds were used, it could be necessary for the government to insure the central bank against this loss (e.g. see Bernanke, 2003).

Third, the use of interest-bearing bonds as an asset to 'back' the money created by the central bank requires that the government pay interest to the central bank (as the holder of the bonds). This payment of interest has the effect of decreasing the amount of money held in the Treasury's account at the central bank and increasing the central bank's equity. Depending on the agreement between the central bank and the Treasury regarding central bank profits, this could lead to a temporary or permanent drain from the Treasury's account. Over time, this drain would partially offset the effect of SMC. For example, in most countries only a proportion of the income earned by the central bank is remitted to the Treasury, and only at periodic intervals. To ensure that SMC does not end up draining money from the government's account, special provision may have to be made for income earned on bonds purchased via SMC. For example, interest payments may need to immediately and automatically be returned to the Treasury.

In order to avoid these issues, Turner (p. 25, 2013), suggests that the government issue perpetual bonds (such as 'consols') with a zero coupon i.e. that pay no interest. Because perpetual bonds do not need to be rolled over, the expansionary impact of SMC will not be partially offset by expectations that SMC may only be temporary. Likewise, not paying interest on the bonds prevents the expansionary effect of SMC being partially or temporarily offset over time through interest payments from the government to the central bank.

### Setting interest rates under SMC

The central bank's ability to set interest rates comes from its position as the monopoly issuer of central bank reserves. By changing this rate the central bank attempts to influence borrowing by businesses and

households, affecting the rate of bank money creation and therefore influencing aggregate demand in the economy.

Since 2008 the central bank has operated what is known as a ‘floor system’ of setting interest rates, with interest paid on all reserves at the policy (base) rate. Consequently, the overnight interbank lending rate now closely mirrors the policy rate, as banks are unwilling to lend reserves to each other at a lower rate than they can earn by simply leaving their reserves in their own account at the Bank of England. Interest rates are unlikely to rise above this policy rate, as due to QE, most banks have reserves far in excess of what they require for settling net payments to other banks each day. By exercising control over this overnight interest rate on central bank reserves, the Bank of England is able to influence interest rates in the economy more generally.

One of the reasons the Bank of England started paying interest on reserves in 2006 (when the corridor system<sup>47</sup> of setting interest rates was introduced) was to ensure that banks would not be penalised for holding reserves. Normally, banks must obtain reserves by borrowing them, at interest, from the Bank of England. The rate at which the reserves are borrowed (the repo rate) is also the Bank of England’s policy rate (or base rate). As the Bank of England pays the same rate of interest on reserves as it charges banks to borrow them, banks are not penalised for holding reserves.<sup>48</sup>

However, paying interest on reserves creates a problem for unconventional monetary policies such as QE and SMC. Banks did not borrow the reserves created through QE, and therefore do not have to pay them back with interest. Yet they receive interest payments on these reserves from the central bank. This is a hidden subsidy to the banking sector, which is actually being paid by the Treasury. The central bank receives interest payments from the government on the bonds it brought through QE. Consequently, interest (coupon payments on the bonds) are being paid from the Treasury to the Bank of England, and the Bank of England then pays interest on the reserves held by banks by crediting their reserve accounts with additional reserves. At the time of writing, this hidden subsidy to the banking sector is worth approximately £1.4 billion a year. If the base rate of interest increased so would the size of the subsidy.

Under SMC however, there would be no payment of interest from the government to the central bank

(because the central bank purchases zero-coupon (interest free) bonds instead of interest-bearing bonds). If the Bank of England wished to continue to set monetary policy by paying interest on reserves, over time the additional interest paid on central bank reserves would reduce the central bank’s equity (as it would not receive compensating interest on the bonds purchased through SMC). Thus, if the current system were maintained and SMC were implemented, the payment of interest on reserves would not only result in an additional subsidy to the banking sector, it would also eventually lead to a reduction in central bank capital.

Under present conditions this subsidy could be removed by simply stopping the payment of interest on central bank reserves (or made negligible by simply paying a token interest rate, such as one basis point). This would remove the subsidy to the banking sector, and allow SMC to be undertaken without negatively affecting the central bank’s capital. However, this creates problems if the Monetary Policy Committee has intentions to raise interest rates in the near to medium term.

### **Increasing SMC and interest rates at the same time**

In part 1, we propose that an increase in SMC could be used in conjunction with an increase in interest rates. The procedure for doing so is slightly more complicated than when SMC is undertaken at the zero lower bound (i.e. with interest rates close to zero), due to the inherent difficulty in simultaneously trying to control both the price of reserves (in this case, base rate) and the quantity (in this case the quantity of reserves created via SMC). Things are further complicated due to the current arrangements for setting interest rates, which involves paying interest on reserves.

It should be noted that the excess reserves created via QE complicate matters further. If the central bank wishes to increase the base rate of interest, then it will have to increase interest payments to banks. Once interest rates rise above the amount the Bank of England<sup>49</sup> is currently receiving in payments on the bonds purchased through QE, this will result in interest payments on reserves created through QE exceeding the payments on the assets bought via QE. The difference between these payments will have to be made up by the Treasury. Furthermore, the more interest rates are increased the greater the subsidy to the

fig. 17 – Government balance sheets before and after SMC takes place

**Before**

<b>Bank of England</b>		<b>Treasury</b>	
Assets	Liabilities	Assets	Liabilities
<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">Loans to Commercial Banks</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">Gilts</div> <div style="border: 1px solid black; padding: 5px;">Other Assets</div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">Reserve accounts of banks</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">All other liabilities</div> <div style="border: 1px solid black; padding: 5px;">Equity</div>	<div style="border: 1px solid black; padding: 5px;">All other assets (financial assets, physical assets etc.)</div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">Debt liabilities (Gilts etc.)</div> <div style="border: 1px solid black; padding: 5px;">All other liabilities</div>

**After**

<b>Bank of England</b>		<b>Treasury</b>	
Assets	Liabilities	Assets	Liabilities
<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">Perpetual zero coupon bonds</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">Loans to Commercial Banks</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">Gilts</div> <div style="border: 1px solid black; padding: 5px;">Other Assets</div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">New central bank reserves</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">Reserve accounts of banks</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">All other liabilities</div> <div style="border: 1px solid black; padding: 5px;">Equity</div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">New central bank reserves</div> <div style="border: 1px solid black; padding: 5px;">All other assets (financial assets, physical assets etc.)</div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">Perpetual zero coupon bonds</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">Debt liabilities (Gilts etc.)</div> <div style="border: 1px solid black; padding: 5px;">All other liabilities</div>

banking sector will be, and the greater will be the cost to the government.

Under current arrangements, engaging in SMC at the same time as increasing interest rates (so increasing interest payments by the central bank on reserves) would lead to an increase in the subsidy to the banking sector (through interest paid on reserves). At the same time it would also reduce the central bank's equity position (which could eventually require the Treasury to supplement the central bank's capital). While the insolvency of the central bank is not a problem in the same way that the insolvency of a normal bank is (see endnote 45), it is still undesirable for the banking sector to be subsidised by the central bank (as it is now due to the reserves created through QE).

It is however possible to increase SMC at the same time as interest rates are increased whilst removing the subsidy to the banks. Three different options for doing so are outlined below.

**Option 1:** In order to increase the base rate while also increasing the quantity of central bank reserves held by banks, the authorities can create a false scarcity of central bank reserves (even when banks actually have more than they require due to SMC, and so would like to lend some to other banks, which would put downward pressure on the overnight interest rate). There are two mechanisms by which this can be achieved, the first of which involves an element of financial repression. (However, it may be that a small amount of financial repression is the price the banks must pay to prevent a future banking crisis (and their own bankruptcy). Furthermore, society will also benefit from a greater degree of financial stability and a more productive economy.)

**Option 1a:**

- First, the central bank would stop paying interest on all central bank reserves.
- Second, the central bank would re-impose a reserve requirement on banks, so that banks would be required to hold more reserves than they actually needed to make day to day payments. Alternatively, the central bank could re-implement 'special deposits'. This would require banks to hold an amount of reserves equivalent to those that were *not* borrowed from the central bank (i.e. any reserves created via QE or SMC) in a special, separate reserve account at the Bank of England. Each bank would have to hold special deposits in their separate reserve account in proportion to a

measure of their market share (e.g. the amount of FSCS guaranteed deposits at each bank). These deposits would pay no interest, and could not be used for making payments. This creates an artificial shortage of reserves.

- Third, these reserve requirements (or special deposits) would have to increase as SMC increased, in order to soak up the additional reserves fed into the system via SMC.
- Fourth, in order to increase interest rates under this system, and provide the banks with reserves that they require to make payments, the central bank could simply use Open Market Operations, as it has done in the past. Alternatively, the central bank could stand ready to lend reserves to the banks, with the interest rate that the central bank charges then determining short term rates in other markets (as was the practice before 2006).

**Option 1b:**

- First, the central bank would return to a reserves averaging scheme (the corridor system of setting interest rates, outlined in endnote 46).
- Second, as before, the central bank would re-implement 'special deposits'. This would require banks to hold an amount of reserves equivalent to those that were *not* borrowed from the central bank (i.e. any reserves created via QE or SMC) in a special, separate reserve account at the Bank of England. Each bank would have to hold reserves in their separate reserve account in proportion to their market share (total liabilities). These deposits would pay no interest, and would not be usable for making payments. This creates an artificial shortage of reserves.
- Third, the amount of reserves deposited in the special deposits would have to increase as SMC increased, in order to soak up the additional reserves fed into the system via SMC.
- Fourth, banks would have to borrow reserves for their payments needs from the central bank, in the same way as they did during the reserves averaging scheme. These reserves would be held in a separate account and (unlike option 1a) would pay interest, which would allow the central bank to gain control of interest rates. The central bank would also stand ready to lend reserves to the banks at a slightly higher interest rate (i.e. the corridor system for setting interest rates would be reinstated).

**Option 2:** An alternative method would be to simply continue to pay interest on banks' reserves holdings (using the floor system) and increase SMC and the rate paid on reserves together. In this case, as outlined above, the banks would receive a subsidy from the central bank resulting in the central bank eventually running down its capital. The central bank would therefore require its capital periodically topping up by the Treasury. This would most likely lead to an increase in public debt. This could be offset by the Government levying a tax on the banks to reclaim the subsidy they receive, and using this to top up the central bank's equity position.

**Option 3:** Finally, a third option is to accept the banks will receive a subsidy as a result of the design and implementation of QE. If the central bank wants to engage in SMC and increase interest rates at the same time then it can simply increase the rate of interest it pays on reserve accounts. Special deposits paying zero interest can, if desired, be used to ensure that SMC does not make the subsidy any worse. As long as the base rate set by the Bank of England does not exceed the coupon payments it receives on government bonds bought via QE (assuming they were bought at par) then the central bank will not see its capital reduced.

### **Increasing SMC and restricting bank lending through other means**

Given the problems with the use of interest rates as a tool to restrict bank money creation, it may be beneficial to find an alternate method to restrict bank lending. This would allow the authorities to increase SMC while at the same time restricting bank lending, but without the complications that arise from raising interest rates.

There are several ways in which bank lending can be restricted without increasing interest rates. First, perhaps the most direct tool would be to use direct credit guidance (as outlined by Werner, 2005). Alternatively, lending can be affected indirectly by increasing risk weighted capital ratios. These have been proposed by Basel III as an additional measure by which to control bank lending during booms (the countercyclical capital buffer). If the central bank was to increase a banks capital requirements while at the same time increasing SMC, it would have the same affect on bank lending as increasing interest rates without creating some of the problems outlined above.

### **The difference between SMC and making QE permanent**

There has been some confusion in the economics literature about the difference between Sovereign Money Creation (or Overt Money Finance) and making Quantitative Easing permanent (by continually repurchasing the bonds purchased for QE as they mature). The government budget constraint is a useful concept for understanding the difference between QE and SMC. It can be expressed as:

$$G - T = \Delta M + \Delta B$$

Where G is government spending, T is taxes,  $\Delta M$  is the change in the supply of base money, and  $\Delta B$  is the change in supply of bonds. The left side of the equation is the government deficit (spending in excess of taxes), while the right side is how the deficit is financed. Essentially, the equation says that the government must finance its deficit by either issuing bonds or creating money. Because government spending is to a large extent planned in advance, but taxes takes are uncertain, if the government is to spend in excess of the tax take, then this spending must be financed through either the issue of bonds (the usual option) or through the creation of base money.

In simple terms Quantitative Easing involves the Bank of England buying government bonds from the markets (typically pension funds and insurance companies) creating central bank reserves in the process (i.e. newly created money). This changes the composition of how a government deficit is financed (the right hand side of the equation), from bond financing to money financing, after the spending has taken place. QE does not directly increase the level of government spending (although it does change the yield on government debt and therefore affect the government's cost of borrowing). Consequently, under QE the process of financing a deficit happens as follows:

- The government determines the quantity of government spending.
- The government borrows (by issuing bonds) to finance the deficit.
- Then central bank can then choose to alter the composition of how the deficit is financed, by using its powers of money creation to 'buy back' government bonds from the markets, in effect changing the composition of government financing after the fact.

QE could be made permanent by the Bank of England continuing to repurchase an equivalent amount of government bonds as existing bonds mature. This would mean that a larger<sup>50</sup> part of the deficit was permanently monetised (financed by money creation). However, making QE permanent would not have encouraged government to increase its spending in any way. QE and Permanent QE is therefore a reaction by the Bank of England to earlier spending decisions made by the government.

Under SMC things are different. Rather than the government determining its spending, and then the central bank acting to alter the way the spending is financed after the event, instead the central bank increases the amount of money in the government's account and this leads to an increase in government spending. Consequently the causality runs from a change in  $M$  to a change in  $G$ . SMC therefore directly leads to additional government spending in the economy and is not primarily a tool to finance an existing government deficit.

### **The effect on the national debt of SMC**

A debt can be defined as obligation owed by one party to a second party. The key term here is 'obligation': does the issue of zero-coupon consols create an obligation on behalf of the government, and does the issue of base money create an obligation on behalf of the central bank?

First, the zero coupon consols used in SMC do not involve coupon payments nor do they ever need to

be redeemed (repaid by government). Consequently, SMC does not create any current or future financial obligations on the part of the government. Second, these consols are sold to the central bank, which is another government agency. Hence, even if one was to consider them debts, they would be a debt that the government owed to the publicly owned central bank, and therefore to itself.

Likewise the money created via SMC does not create any obligation on behalf of the central bank. Base money, as Buiter (2003) argues, "does not have to be redeemed by the government – ever. It is the final means of settlement of government obligations vis-à-vis the private sector. It does not represent a claim on the issuer for anything other than the same amount of itself." If one turns up at the central bank with base money (cash or central bank reserves), the central bank is not obliged to exchange the base money for anything other than more base money. Furthermore: "Additional base money can be created at zero incremental cost by the government." For these reasons, the creation of base money through SMC does not create any obligations on behalf of the central bank.

Therefore, given that neither the consols nor the issue of new base money creates an obligation on behalf of the government or central bank, these consols cannot be considered debts of the issuer. Thus the securities issued to facilitate SMC should not be counted in any calculations of the national debt (although it should of course be included in a separate register, as the debt incurred in the bank bailouts is).

# Appendices

## APPENDIX 1 - CONCERNS OVER SOVEREIGN MONEY CREATION

### Will SMC be effective at increasing output?

If the money created through SMC is distributed into the economy through government spending, then the effectiveness of SMC in boosting the economy will depend on the effectiveness of government spending. There are usually two reasons put forward for why government spending may not be effective – crowding out and Ricardian equivalence (see footnotes 19 and 22 for definitions).

In an economy with a large degree of spare capacity, it is unlikely that there will be much competition for resources. In addition, the increase in the supply of money through SMC is likely to push down on interest rates, so no crowding out is likely to occur through this channel. For these reasons, even R.G. Hawtrey, the economist responsible for originating the ‘Treasury View’ (i.e. crowding out), thought that a fiscal expansion financed with new money would be expansionary:

“In the simple case where the Government finances its operations by the creation of bank credits, there is no diminution in the consumers’ outlay to set against the new expenditure. It is not necessary for the whole of the expenditure to be so financed. All that is required is a sufficient increase in bank credits to supply balances of cash and credit for those engaged in the new enterprise, without diminishing the balances held by the rest of the community. ... Here, then, is the real virtue of the proposal. If the new works are financed by the creation of bank credits, they will give additional employment.” (Hawtrey, 1925)

Regarding Ricardian equivalence, the theory does not explicitly deal with the effects of financing spending via money creation. However, as Bell (1999) points out, a ‘monetarist Ricardian’ might argue that increases in spending financed via money creation would lead solely to an increase in prices. Consequently, the increase in prices would offset the increase in financial

wealth (in the form of additional bank deposits), and so SMC would have no real effects. However, this view relies on there being no spare capacity in the economy, as well as the increase in spending being fully anticipated by the private sector (i.e. ‘rational expectations’). Neither of these assumptions are likely to be met in reality.

In conclusion, it would therefore seem that an increase in government spending financed by money creation is likely to be more expansionary than an increase financed by bond issuance or an increase in taxes. This is, as Chick (1983) notes, ‘common sense’, as spending financed by tax increases takes an equivalent amount of money away from the private sector, whereas spending financed by bond issues can increase interest rates. Consequently, as Buiter (2003) argues, “with irredeemable fiat base money, the proper combination of monetary and fiscal policies can almost always ... boost aggregate demand”. Moreover, given spare capacity, an increase in aggregate demand would translate into an increase in employment and output.

Modelling the short run effect of different types of fiscal financing on aggregate demand, Christ (1967) finds “the effects of fiscal policy depend heavily on how deficit financing is divided between printing money and borrowing from the private sector”. Christ finds that spending financed by creating money is the most expansionary (with a spending multiplier of 6.2), followed by spending financed by bond issuance (a multiplier of 3.7). Spending financed by increasing taxes is the least expansionary, with a multiplier of 1.1.

### Will SMC lead to high or hyperinflation?

A common concern with SMC is that cooperation between the fiscal and monetary authorities will lead to the power to create money being excessively used, resulting in high levels of inflation, or even hyperinflation.<sup>51</sup>

These concerns are reasonable and point to the need for a strong governance structure around the use of SMC. The recent financial crisis demonstrated the dangers of allowing any organisation to have the power to create money without appropriate safeguards. Organisations, such as commercial banks today, which are able to create money and benefit from doing so, will naturally have an incentive to create too much money. This tends to lead to economic instability. Looking at a dataset comprising 14 advanced countries and covering the period between 1870 and 2008, Taylor (2012) finds that the most important variable in predicting financial crises is past credit growth:

“Over 140 years there has been no systematic correlation of financial crises with either prior current account deficits or prior growth in public debt levels. Private credit has always been the only useful and reliable predictive factor.”

For this reason, the state – through the central bank – attempts (often unsuccessfully) to restrict bank activities in order to prevent the harmful effects of excessive money creation: inflation, instability, and financial crisis.<sup>52</sup> Likewise, to prevent politicians from abusing the power to create money, this power (and monetary policy in general) is devolved to an independent central bank.

To prevent the abuse of SMC, all that is required is that the decision over how much money to create is delegated to an organisation that does not have a conflict of interest. In this case, this means that the beneficiary of money creation – in the case of SMC the government – is not also able to decide the amount of money

to create. This is the approach followed in Jackson and Dyson (2012) as part of a larger set of reform proposals. In a recent debate, Adair Turner also advocated similarly:

“Under the Outright [overt] Monetary Financing approach ... the scale of money financed fiscal deficits would be clearly determined in advance by an independent central bank. The fiscal authority would decide how to spend the money (the balance between tax cuts and public expenditure): but the central bank would determine the amount of permanent money finance, consistent with an appropriate inflation or money GDP target. And it would do so as an independent central bank, and through the same decision making processes which govern the use of other monetary-policy tools.” (Reichlin, Turner, Woodford, 2013) [our addition in square brackets]

The simplest way to ensure that the central bank does not create too much money is for monetary policy to continue targeting inflation (on its own or as part of a broader set of targets). Higher levels of inflation would therefore automatically lead to the central bank reducing (or halting) SMC. SMC therefore gives the central bank another tool that it can use to aim at its targets, but does not open the door to unconstrained money creation by the state. (A longer discussion of the conflicts of interest and governance issues inherent in SMC can be found in Part 2.) The decision on whether to undertake SMC should be taken by the MPC in its monthly meetings, alongside its other monetary policy decisions.

## APPENDIX 2 - ACADEMIC SUPPORT FOR SOVEREIGN MONEY CREATION

Sovereign Money Creation is not a new idea: many economists have advocated similar policies, particularly in response to serious recessions or depressions. This section provides a series of quotes from some of the most well known advocates. The first section deals with those economists that advocated SMC-type policies specifically in response to the Great Depression. The second section looks at those that argued that SMC-type policies should be part of the authorities normal toolkit to maintain economic prosperity.

### Support for Sovereign Money Creation as a response to large recessions or depressions

**Paul Douglas and Aaron Director:** Paul Douglas is perhaps best known for his work on production functions. According to Tavlas (1977), he was also one of the first economists from the University of Chicago to advocate fiscal deficits as the appropriate response to depressions, as early as 1927. What is more, he advocated financing these deficits with new money creation to avoid the problem that “tax-financed and bond-financed deficits had offsetting effects.”

In 1931, Douglas published a book with Aaron Director, arguing that

“It is possible for government to increase the demand for labor without a corresponding contraction of private demand, and that this is particularly the case when fresh monetary purchasing power is created to finance the construction work.” (p.210-211, Douglas & Director, 1931)

**Jacob Viner:** Another member of the ‘Old’ Chicago School<sup>53</sup> that advocated increasing demand in the American economy by creating money was Jacob Viner:

“Assuming for the moment that a deliberate policy of inflation should be adopted, the simplest and least objectionable procedure would be for the federal government to increase its expenditures or to decrease its taxes, and to finance the resultant excess of expenditures over tax revenues either by the issue of legal tender greenbacks [notes] or by borrowing from the banks.” (1933) [our addition in brackets]

**Lauchlin Currie, Harry Dexter White and Paul Ellsworth:** Advocates of financing deficits with money creation were not only associated with the University of Chicago. At Harvard, Lauchlin Currie, Harry Dexter White and Paul Ellsworth<sup>54</sup> wrote a memorandum in January of 1932 advocating a series of policy reforms to combat the on-going depression. The financing for these policies was to come not from borrowing or taxation, but money creation by the Federal Reserve:

“It is strongly recommended that the Government immediately commence a program of public construction on a nationwide scale. Such a program would stimulate directly the building and construction industry and those industries engaged in the production of raw materials and tools, and indirectly a large number of other lines of enterprise, through the expenditure of the earnings of the reemployed. The revival of these industries would involve a further, secondary increase in employment, which in turn would stimulate recovery in other lines in ever widening circles. As employment in industry at large increased, a gradual reduction in government expenditure on construction would be called for, and would permit the return of men engaged on such work to their ordinary occupations.

This program should be financed, not by taxation, which serves principally merely to divert expenditure from one channel to another, but by an issue of bonds.

....

[This] would probably depress the bond market unless the Federal Reserve Banks or member banks come to its support, as they did during the war, *by purchasing a large portion of the government issues*. Indeed, such action by the Federal Reserve Banks will be essential to the success of the plan herein outlined; otherwise a large bond flotation will heighten the long term borrowing rate and discourage new undertakings on the part of private corporations and municipalities.” (Laidler & Sandilands, 2002) (Emphasis added)

By combining public works with bond purchases by the Fed, the authors, although they do not say it directly, advocate financing government spending with money creation.

**John Maynard Keynes:** In an open letter to President Roosevelt sent in 1933, Keynes made the point that:

“An increase of output cannot occur unless by the operation of one or other of three factors. Individuals must be induced to spend more out of their existing incomes; or the business world must be induced, either by increased confidence in the prospects or by a lower rate of interest, to create additional current incomes in the hands of their employees, which is what happens when either the working or the fixed capital of the country is being increased; or a public authority must be called in aid to create additional current incomes through the expenditure of borrowed or printed money. In bad times the first factor cannot be expected to work on a sufficient scale. The second factor will come in as the second wave of attack on the slump after the tide has been turned by the expenditures of public authority. It is, therefore, only from the third factor that we can expect the initial major impulse.” (Emphasis added) (Keynes, 1933)

Although later in the letter Keynes advocated that the deficit be financed with government borrowing, this was probably the result of the particular circumstances of America at the time (i.e. a small public debt, and low issues of private securities). Later, Keynes would advocate public works, which were “government expenditure undertaken in special circumstances, as distinguished from regular expenditures”, in response to the depression. He “was very specific about the source of finance for his ‘public works’: new money.” (Chick, 1983, p.318)

### Support for Sovereign Money Creation as a conventional policy tool

As well as those that have advocated Sovereign Money Creation as a response to crises, several economists have recommended that spending financed by money creation should be the rule rather than the exception.

**Henry Simons:** In his 1936 paper, “Rules versus Authorities in Monetary Policy”, Henry Simons proposed that monetary policy should work via fiscal channels:

“The powers of the government to inject purchasing power through expenditure and to withdraw it through taxation i.e., the powers of expanding and contracting issues of actual currency and other obligations more or less serviceable as money are surely adequate to price-level control.” (Simons, 1936)

**Abba Lerner:** In his 1943 paper, ‘Functional finance and the Federal debt’, Abba Lerner advocates a policy that he calls ‘functional finance’. The principle idea behind functional finance is that the economy is not self-regulating, so the government should intervene in order to ensure a prosperous economy. Lerner advocates that these interventions should take place primarily by the government increasing taxes (if the economy is overheating) or increasing spending (if the economy is in recession). Consequently, according to functional finance taxes should not be levied in order to obtain funds. Rather as the monopoly issuer of its own currency, the government does not need to tax to spend. Instead, spending can be financed by new money creation, or by issuing bonds (however, bonds are only to be issued if the rate of interest falls too low). In short, governments can never run out of the money which they themselves create, however the main constraint on how much money they can create is the need avoid fuelling inflation. Lerner contrasted his ‘functional finance’ approach with the ‘sound finance’ approach, which emphasised that the government should aim for a balanced budget, in either the short or long run. For Lerner the advocates of sound finance were confusing the micro – the budget of a firm or household – with the macro – the budget of a government with the power to create money. While households and businesses can become insolvent and so do have to balance their budgets in the long run, a government that has the power to create money can never become meaningfully insolvent, and therefore, for Lerner, there was never a need to balance the budget.

Of course, Lerner was not saying that the government should spend whatever it likes – it is constrained by the effect its spending will have on inflation, the exchange rate, and the use of real resources. Rather he merely recognised that self-imposed financial constraints are not binding:

“[Functional finance] consists of the simple principle of giving up our preconceptions of what is proper or sound or traditional, of what “is done,” and instead considering the functions performed in the economy by government taxing and spending and borrowing and lending. It means using these instruments simply as instruments, and not as magic charms that will cause mysterious hurt if they are manipulated by the wrong people or without due reverence for tradition.” (Lerner, 1943) [Our addition in square brackets]

Recently, the functional finance approach of Abba Lerner has been combined with the ‘State Theory of Money’ approach of GF Knapp and the sectoral balance approach of Wynne Godley to create what has been termed ‘Modern Monetary Theory’.

**Milton Friedman:** Unlike Lerner, in his 1948 paper, A Monetary and Fiscal framework for Economic Stability, Milton Friedman (1948) advocated that all fiscal deficits be financed via money creation:

“Under the proposal, government expenditures would be financed entirely by either tax revenues or the creation of money, that is, the issue of non-interest-bearing securities. Government would not issue interest-bearing securities to the public; the Federal Reserve System would not operate in the open market. This restriction of the sources of government funds seems reasonable for peacetime. The chief valid ground for paying interest to the public on government debt is to offset the inflationary pressure of abnormally high government expenditures when, for one reason or another, it is not feasible or desirable to levy sufficient taxes to do so ... It seems inapplicable in peacetime, especially if, as suggested, the volume of government expenditures on goods and services is kept relatively stable. Another reason sometimes given for issuing interest-bearing securities is that in a period of unemployment it is less deflationary to issue securities than to levy taxes. This is true. But it is still less deflationary to issue money.

Deficits or surpluses in the government budget would be reflected dollar for dollar in changes in

the quantity of money; and, conversely, the quantity of money would change only as a consequence of deficits or surpluses. A deficit means an increase in the quantity of money; a surplus, a decrease.

Deficits or surpluses themselves become automatic consequences of changes in the level of business activity. When national money income is high, tax receipts will be large and transfer payments small; so a surplus will tend to be created, and the higher the level of income, the larger the surplus. This extraction of funds from the current income stream makes aggregate demand lower than it otherwise would be and reduces the volume of money, thereby tending to offset the factors making for a further increase in income. When national money income is low, tax receipts will be small and transfer payments large, so a deficit will tend to be created, and the lower the level of income, the larger the deficit.”

Friedman’s proposal also completely prevented banks from creating money through 100% reserve requirements.

### **Recent advocates of creating money to finance fiscal expansions**

More recently, several economists have advocated that fiscal expansions be financed with money creation, either in response to the Japan’s deflation of the 1990s and 2000s or the financial crisis of 2007-08 and the subsequent recession.

**Ben Bernanke:** In a 2003 speech to the central bank of Japan (the Bank of Japan), Ben Bernanke advocated that a tax cut be financed with money creation:

“My thesis here is that cooperation between the monetary and fiscal authorities in Japan could help solve the problems that each policymaker faces on its own. Consider for example a tax cut for households and businesses that is explicitly coupled with incremental BOJ purchases of government debt—so that the tax cut is in effect financed by money creation. Moreover, assume that the Bank of Japan has made a commitment, by announcing a price-level target, to reflate the economy, so that much or all of the increase in the money stock is viewed as permanent.” (Bernanke, 2003)

**William Buiter and Ebrahim Rahbari:** In a 2012 paper Buiter and Rahbari argue that central banks should be doing more to stimulate the economy, and this should include ‘helicopter drops’:

“In our view, central banks should also do more, i.e. the case to take some or all of these measures is strong in the countries under consideration. In particular, the case to address the weakness of effective demand suggests that helicopter money drops would be appropriate in all four currency areas.”

**Richard Wood:** In his 2012 paper Wood argues that financing fiscal deficits with money creation is superior to engaging in further QE:

“...programs of “quantitative easing” aimed at reducing longer-term interest rates artificially are ... of doubtful value overall, and are very slow-acting at best, particularly when interest rates are already very low and while debt overhangs persist. Rather, any new money creation should be undertaken by Ministries of Finance, and be deployed to finance part, or all, of the ongoing fiscal deficits. This approach would steer two of the largest economies away from the shoals of triple jeopardy ... and provide other (periphery) countries (suffering from high levels of public debt) a much needed lifeline at a time when new economic stimulus is required to avoid deeper recessions, debt default and depression. Independent central banks are currently being compromised by constraining laws and policies that are resulting in wasted money creation or expensive asset purchases and defensive, risky bond accumulation, and by risky bail-out operations, all of which threaten to undermine the integrity of their balance sheets and their viability.”

**Paul McCulley and Zoltan Pozsar:** In their 2013 paper, McCulley and Pozsar argued that due to private sector deleveraging cooperation between the monetary and fiscal authorities would be necessary in order to return the economy to sustainable growth. Furthermore, they argued that monetary policy would be unlikely to be effective due to already high private debt-to-income ratios:

“During private deleveraging cycles monetary policy will largely be ineffective if it is aimed at stimulating private credit demand. What matters is not monetary stimulus per se, but whether monetary stimulus is paired with fiscal stimulus (otherwise known as helicopter money) and whether monetary policy is communicated in a way that helps the fiscal authority maintain stimulus for as long as private deleveraging continues.

Fiscal dominance and central bank independence come in secular cycles and mirror secular private leveraging and deleveraging cycles, respectively. As long as there will be secular debt cycles, central bank independence will be a station, not a final destination.

**Adair Turner:** In a 2013 speech, Turner argues that ‘Overt Monetary Finance’ (OMF) of fiscal deficits should not be a taboo subject.

“OMF, as Buiter has said, is the tool that will almost always stimulate nominal demand. Governments and central banks together never run out of ammunition to stimulate nominal demand. And in some extreme circumstances – those in which there is a simultaneous and significant fall in both the price level and real output – it is unambiguously clear that OMF would be the best policy, and in some

circumstances may be the only policy available to prevent continual deflation.”

**Martin Wolf:** In a 2013 article in the Financial Times Wolf argues that there is no moral or economic reason why money creation should not be used to finance government spending:

“It is impossible to justify the conventional view that fiat money should operate almost exclusively via today’s system of private borrowing and lending. Why should state-created currency be predominantly employed to back the money created by banks as a by-product of often irresponsible lending? Why is it good to support the leveraging of private property, but not the supply of public infrastructure? I fail to see any moral force to the idea that fiat money should only promote private, not public, spending.”

### APPENDIX 3 - HISTORICAL EXAMPLES OF SOVEREIGN MONEY CREATION AND FISCAL-MONETARY COOPERATION

#### Early history

Historically, governments often financed themselves partly through money creation. For example, during the colonial era in the United States many states created and spent paper money into circulation to aid in trade, with Pennsylvania a particularly successful example.<sup>55</sup> Later both the North and South sides in the US civil war would issue paper money (which was not backed by gold) to help pay for their war efforts. More recently in New Zealand in the 1930s the central bank created new money to make a loan to the government to fund house building.<sup>56</sup> Although none of these policies used the terms “Sovereign Money Creation” or “Overt Money Finance”, they shared the common trait of using newly created money to fund government spending, rather than relying on commercial banks to create new money through lending.

In a paper that looks at the long-term evolution of central banking around the world, Stefano Ugolini (2011) highlights how the process of financing fiscal deficits with money creation has been surprisingly common:

“According to the modern idea of central banking, those who borrow from the monetary authority are other banks – which, in turn, redistribute credit to the whole economy. In the past, however, such a situation has been the exception rather

than the norm. Over the centuries, money-issuing organizations have chiefly supplied credit directly to the state; and even when loans to the banking system have become predominant, central banks have often accorded them provided that the banking system would, in turn, redirect at least part of them towards the government. This disguised obligation has generally taken the form of eligibility criteria for the procurement of credit: in practice, central banks would lend to customers mainly on the security of government bonds, Treasury bills, or the like. With respect to this, the history of the Bank of England is illustrative. During most of its first century of life, the Bank almost exclusively performed direct lending to the government. Only since the 1760s did the sums lent to private customers start to become more substantial; yet, within its portfolio, commercial credit (trade bills) still remained a trifle with respect to government credit. ... The presence of government loans and securities on the Bank’s balance sheet continued to be overwhelming throughout the first half of the 19th century; it was only after the reform of 1844 that the Bank entered the commercial credit market more actively. ... With the explosion of war finance in the 1910s and the decline of international trade in the 1930s, Treasury bills almost completely ousted trade bills from the discount

market ... thus making the Bank operate almost exclusively on Treasury securities ... Therefore, on the whole, the Bank of England never ceased to play the role of ‘great engine of state’, famously credited to it in 1776 by Adam Smith. .... Another noteworthy example is provided by the Federal Reserve: because of an early rebuttal of the use of the discount window ... until the recent crisis the Fed basically restrained all its monetary operations to the Treasury bond market only ... All this suggests that throughout the history of central banking, the monetization of sovereign debt has long played a much more important role than it has generally been recognized.”

Ugolini concludes that as the state has often resorted to financing itself through the creation of money, particularly in periods of financial instability. Consequently financing a deficit by creating money “should not necessarily be seen as evil, but rather as an option to be subjected to a benefit-cost assessment – in the light, of course, of the constraints imposed by the institutional arrangements in force.” It should also be noted that, today, most countries finance their spending at least in small part through money creation, through the profit they make on the creation of notes and coins (known as seigniorage revenues).

The United Kingdom has a particularly strong history of financing part of its spending with money creation. From the mid-1100s to 1826 the crown partly financed itself through the creation of tally sticks – an early form of currency – which were used to make payments that could later be redeemed against taxes levied.<sup>57</sup> Likewise, during the First World War, the Treasury issued ‘Bradbury’ notes in order to finance part of its spending. More recently still, up until the year 2000 the Bank of England regularly used money creation to finance part of the government’s spending, by providing the government with an overdraft facility (the Ways and Means Advance). In addition, the recent Funding for Lending scheme, while still relying on commercial banks to create money, involves close cooperation between the government and the Treasury. These two recent examples are discussed in detail below.

### Recent history: The UK Government’s Ways and Means Advance

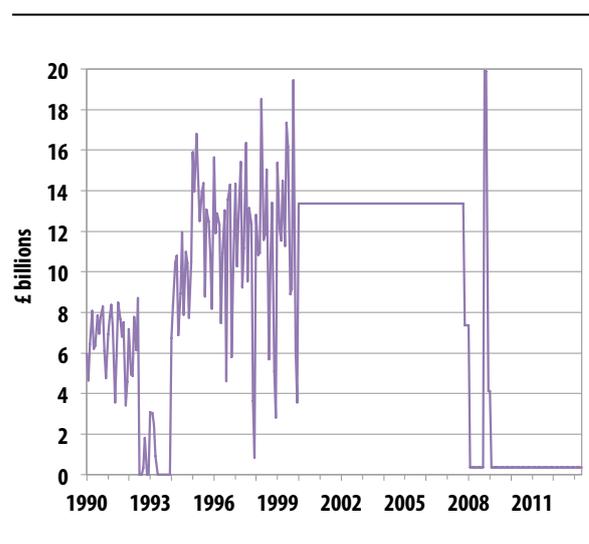
Until 2000, when EU law forced its cessation,<sup>58</sup> the UK government financed a proportion of its spending through an overdraft facility at the Bank of England known as the Ways and Means account. When used to

cover the government’s immediate spending, the liabilities of the Bank of England (i.e. central bank reserves) would increase, creating a form of new money in the process, just as the use of an overdraft at a commercial bank creates money by increasing deposit liabilities. As the Bank of England explains:

“‘Ways and Means’ is the name given to the government’s overdraft facility at the Bank .... Prior to the transfer of the government’s day-to-day sterling cash management from the Bank of England to the Debt Management Office (DMO) in 2000, the outstanding daily balance varied significantly, reflecting net cash flows into and out of government accounts that were not offset by government cash management operations [i.e. borrowing from financial markets]. After the transfer of cash management from the Bank to the DMO, borrowing from the Bank was not used to facilitate day-to-day cash management and the balance was stable at around £13.4 billion until the facility was [mainly] repaid during 2008. ... The facility remains available for use...” (Cross et al. 2011) [Our addition in square brackets].

Financing a part of a fiscal deficit with money creation was therefore normal policy up until 2000. Although the advance was only meant to be a temporary solution, with repayments made as either tax receipts came in or bonds were issued (hence the fluctuations in its balance), as figure 18 shows a significant sum remained outstanding at all times.

fig. 18 - Ways and Means Advance to HM Government (£ billions)



Source: ONS

In 2000 the balance of the Ways and Means Advance was frozen at £13.37 billion. The balance remained outstanding until January 2008, at which time a proportion of it was paid off. Therefore, in effect, from March 2000 to the 24<sup>th</sup> of January 2008, the central bank and the government had effectively cooperated to finance £13.37 billion of the government's deficit via money creation. Crucially, when the account was frozen no agreement was made as to when the account would be repaid – it could have remained unpaid indefinitely. If this occurred, £13.37 billion of government spending would have been permanently funded by the creation of money.

Between January and March 2008, the Treasury repaid £13 billion of the £13.37 billion outstanding on the Ways and Means Advance.<sup>59</sup> Since then, the Ways and Means advance has been used to refinance “loans that the Bank had earlier made to the Financial Services Compensation Scheme and to Bradford & Bingley” (Cross et al. 2011). That is, the Bank of England temporarily bailed out Bradford & Bingley with newly created money, contravening European law in the process.<sup>60</sup>

#### **A recent example of Monetary-Fiscal Cooperation Between the Treasury and Bank of England: The Funding for Lending Scheme**

The design of SMC requires the Bank of England and Treasury cooperate, meaning that this requires fiscal-monetary cooperation rather than strict independence between the two functions. A recent interesting

example of fiscal-monetary cooperation is the Funding for Lending Scheme, as described in Part 1. The Funding for Lending Scheme (FLS) allows banks to swap illiquid assets for *specifically created* Treasury Bills with the Bank of England. As a Bank of England paper on the scheme explains:

“The Treasury bills used in the FLS are issued by the Debt Management Office (DMO) *specifically for the Scheme*. They are liabilities of the National Loan Fund and held by the DMO as retained assets on the Debt Management Account. The Bank borrows the Treasury bills from the DMO under an uncollateralised stock lending agreement.” (Churm et al. 2012) (Emphasis added)

The FLS as currently practised and the proposal for SMC outlined here have two important things in common. First, FLS is an example of the fiscal authority (the Treasury) and the monetary authority (the Bank of England) cooperating with each other in an attempt to increase spending in the economy (by indirectly encouraging the creation of money by commercial banks). Likewise, SMC proposes fiscal monetary cooperation for the same ends. Second, the Treasury bills used in FLS are issued specifically for the Scheme by the Debt Management Office. These bills are not issued to facilitate government borrowing, but specifically to facilitate this scheme. Likewise, the proposal for SMC outlined here has the Treasury issue securities specifically for SMC, even though there is no increase in government borrowing.

## Endnotes

1. Advanced economies normally return to their pre-recession levels of economic activity within about 18 months of the beginning of a recession. For recession that follow financial crises and are also highly synchronised the average time for an economy to recover lost output is five years (Kannan et al. 2009).
2. Martin Wolf, chief economics editor of the Financial Times, puts it more bluntly: “The essence of the contemporary monetary system is creation of money, out of nothing, by private banks’ often foolish lending” (2010). For an explanation of how banks create money, see Ryan-Collins et al. (2011).
3. “Individual secured” consists of all lending secured on property, including mortgages.
4. Unproductive lending is defined as a lending for a transaction that does not contribute to GDP. Lending for the purchase of a pre-existing asset would be an example of unproductive lending.
5. The increase (decrease) in spending due to an increase (decrease) in wealth.
6. Given that one person’s (or sector’s) spending is another person’s (or sector’s) income, a reduction in spending by one person will lead to a lower level of income for someone else. Therefore, if everyone is cutting spending at the same time (the domestic private sector, government, the foreign sector) then private sector income will inevitably fall. This is supported by empirical evidence. Looking at eight fiscal consolidations in the UK, Chick and Pettifor (2010) find that: “The empirical evidence runs exactly counter to conventional thinking. Fiscal consolidations have not improved the public finances. This is true of all the episodes examined, except at the end of the consolidation after World War II, where action was taken to bolster private demand in parallel to public retrenchment.”
7. From the Labour Force Survey (% of people aged 16 and over who are unemployed, seasonally adjusted).
8. A ‘normal’ recession is defined by Kannan et al. as one that does not follow a financial crisis and does not occur in multiple countries at the same time.
9. Defined as a recession in which more than 10 of the 21 advanced countries in the sample were in recession at the same time. By altering the base rate the central bank influences the interest rate that banks pay to borrow central bank reserves in the interbank market. Increasing this rate will increase the cost to banks of acquiring the reserves they need in order to make payments to other banks. To maintain their profit margins, banks must increase the interest rates they charge on loans. In this way, an increase in the base rate of interest should – in theory – lead to an increase in the interest rate that banks charge on their loans to the private sector.
10. That is, the demand for borrowing is highly interest inelastic.
11. To be clear, this does not mean that banks lend out reserves – this is impossible. Banks can only lend reserves to other organisations with an account at the Bank of England – i.e. other banks.
12. Nor can they lend out excess reserves to non-banks. The idea that the money created by QE could increase lending directly was based in part on an incorrect ‘money multiplier’ view of banking, in which banks require central bank reserves before they can lend. Instead, “In the real world, banks extend credit, creating deposits in the process, and look for the reserves later” (Holmes, 1969). For a detailed explanation of how banking works see Ryan Collins et al. (2011).
13. Or alternatively, on the ability of the bank to securitise the loan and sell the resulting security, therefore ‘offloading’ the risk onto the buyer of the security.
14. Since the end of World War II, credit guidance has been used in almost every developed country at one time or another. Credit guidance does not entail, as is sometimes alleged, the authorities managing individual banks or ‘picking winners’. Rather, the monetary authority acts to limit or promote the extension of credit to certain broad sectors of the economy. The Funding for Lending scheme, in that it rewards banks for lending to SMEs, is therefore a form of credit guidance. The economic rationale for doing so is simple. The central bank and government have franchised out the creation of money to the private sector. As a result they have had to also provide insurance and subsidies to both the banking sector and bank customers (e.g. lender of last resort, deposit insurance, too big to fail, etc). Consequently, the private sector is insulated from the costs of some of its actions, which instead fall on the government and society. Therefore, and just as in

the private sector, those offering insurance are entitled to demand that banks avoid behaviours that increase the likelihood of calling on the insurance. In this case, certain types of lending make asset price bubbles and financial crises more likely, in particular excessive lending for speculative and/or unproductive purposes. Commensurate with the provision of insurance, the authorities may therefore demand a limit on these types of lending, and in the process engage in ‘credit guidance’. In addition, lending for productive purposes may be promoted, in order to increase national income and consequently make financial crises less likely.

15. Source: Bank of England statistical database.

16. Moreover, ultra low interest rates may have negative effects, including making various types of harmful speculative activities profitable, and keeping inefficient companies afloat (White, 2012).

17. The string analogy suggests that monetary policy is effective in constraining borrowing during relatively benign economic periods (i.e. a string can become taut). However, given the historical inability of central banks to prevent financial crises resulting from excessive bank lending (e.g. see: Jordà et al. 2011a, Jordà et al. 2011b, Taylor, 2012), perhaps a better analogy would be to compare monetary policy to an elastic band: relatively weak at restricting borrowing and economic activity during upturns, and ineffective at stimulating lending and economic activity in downturns.

18. Incidentally this is a complete reversal from the situation during the 1940s and 50s in which: “it became established ‘Keynesian wisdom’ that the economy could be ‘stabilised’ and growth encouraged by policies – mostly variations of government expenditure and taxation – designed to alter the level of aggregate demand, while monetary policy was dismissed as impotent.” (Chick, 1983, p.316)

19. The theory that deficit spending might ‘crowd out’ private sector investment comes in several varieties. First, by issuing debt, government securities compete with privately issued securities. The increase in supply of securities increases the interest rate that companies are forced to pay, making some investments unviable in the process (interest rate crowding out). An alternative formulation sees increased government spending lead to an increase in income, which increases the demand for money, and, given a fixed money supply (an unrealistic assumption – see endnote 20), increases interest rates. Second, with government and the private sector competing for a limited supply of funds some securities simply go unsold (quantity crowding out). Third, the government bids real resources away from the private sector (labour, land, capital etc.) pushing up the price and again making investment unprofitable (resource crowding out). Fourth, if an independent central bank believes that deficit spending by the government will actually succeed in increasing demand (i.e. there are minimal crowding out or Ricardian equivalence effects – as outlined in endnote 22) then, given an inflation target, they may react to a fiscal expansion by increasing interest rates in order to offset its perceived inflationary effects (having already set an interest rate which would achieve the given inflation target conditional on a given level of spending).

20. For crowding out to occur through interest rates or through quantities relies on a conception of the monetary system in which borrowers must compete with each other for a fixed quantity of funds. This theory does not hold in reality, when commercial banks create money by making loans and where central banks are willing to provide any quantity of central bank reserves to banks at a particular interest rate. As a result, rather than a fixed quantity of loanable funds, instead lending is almost completely elastic at any given interest rate. Consequently, while some degree of crowding out is a possibility, “The conditions under which changes in public spending have no long-run effect on real variables are very stringent indeed. ... It is important to beware of jumping from accepting the plausibility of some degree of direct (or indirect) crowding out to presenting the (on a priori and empirical grounds) implausible case of 100% crowding out as the only relevant one.” (Buiter, 1977)

It has also been argued that fiscal policy could in fact have the opposite effect and ‘crowd in’ private investment. For example, to the extent that investment depends on income (or expected future income), increases in (or announcements of) government spending increase income (or expected income) and this higher level of income leads to a higher level of investment. Issuing bonds also increases the private sectors net assets, and as consumption at least partly depends on wealth, deficit spending will lead to higher levels of consumption. The extent to which increased deficit spending will crowd out/crowd in private investment will depend on a multitude of factors. This includes whether the positive effect of increases in wealth and income on output dominate the negative effects of increases in interest rates on investment. This in turn depends on the elasticity of investment with respect to interest rates and income and wealth.

21. The zero lower bound refers to the idea that the interest rate the central bank sets cannot be reduced below zero, by convention.

22. In addition, while the likelihood of crowding out occurring is low, the level of media coverage around the national debt may increase the likelihood of Ricardian equivalence effects (Bernanke 2003). The Ricardian equivalence proposition, or its modern variant, the Barro-Ricardo equivalence theorem, states that fiscal policy will have the same (i.e. no) effect regardless of how it is financed. For example, if the government finances itself out of taxes, then this simply transfers resources from the private sector to the public sector, with the effect that no net new spending takes place. Alternatively, if the government chooses to finance itself by borrowing, then this implies higher taxes in the future in order to pay off the

debt. In this case, taxpayers increasing their saving in order to pay off the higher taxes will offset the expansionary effect of deficit spending. Theoretically, the assumptions that are required for Ricardian equivalence are extremely unlikely to hold in the real world. They include (among others): 1) Infinitely lived households that optimise their budget constraint perfectly and altruistically over time. However, households are not infinitely lived (about one fifth do not have children) and they may not optimise their budget over time (i.e. they may not act completely altruistically towards their children). 2) That the increase in debt not be paid by any other means than by raising taxes. 3) Perfect capital markets. 4) No population growth or economic growth. For additional arguments see Feldstein (1976), and Schlicht (2013).

Ricardian Equivalence is not an argument against greater government spending financed by borrowing – the criteria on which the government decides whether to spend or tax are broader than just economic growth. In addition, as emphasised by Blinder and Solow (1973), “for the bulk of government expenditures – on national defence, courts etc. – it is hard to imagine that public-sector outlays are simply replacing potential private outlays on a dollar-for-dollar basis.”

23. Debt deflation, such as outlined in Fisher (1933), is considered undesirable as it increases the real value of debt. In mainstream economics debt deflations (or technically deflations – debt is ignored) are assumed to be self-correcting. Price falls supposedly increase the real money balances of money holders, and this ‘wealth effect’ increases spending, automatically stabilising prices and output (the Pigou-Patinkin effect). The economy is therefore self-correcting. However, this dynamic does not occur in the real world. In the current monetary system the majority of money is created by banks in correspondence with interest bearing debt. As a result, during a deflation while those that hold positive money balances do indeed see the value of their money increase in real terms, conversely those who are in debt see the value of their debts increase in real terms. Because bank liabilities (mainly deposits – private sector assets) are matched by an equivalent amount of bank assets (mainly loans – private sector liabilities), so the positive wealth effect and the negative debt effect of deflations cancel each other out. In fact, if the propensity to consume for those with positive money balances is lower than for those in debt, then it may be the case that the deflations have a net negative effect on demand.

24. For recessions that are associated with financial crises, the average time it takes for the economy to recover its previous level of output is just under three years. For recessions associated with financial crisis that are also highly synchronised, the average recovery time is 3.5 years (Kannan et al. 2009).

25. Gross Domestic Product: chained volume measures, seasonally adjusted at 2010 prices.

26. For example, consider the Bank of England’s monetary policy actions since 2008. Cutting interest rates lowered the cost of credit, which should have encouraged banks to lend and individuals to borrow. When banks lend they create new money, which, when spent on goods and services, increases GDP. Likewise, forward guidance and funding for lending were intended to increase private banks’ lending and money creation. When cutting interest rates failed to stimulate bank lending (and therefore money creation), the central bank decided to directly create £375bn of new money directly through QE.

27. The actual procedure is a bit more complicated than outlined here. See the step by step procedure for SMC for more detail.

28. In line with democratic principles, the central bank cannot force the government to spend: the government can always turn down the money from the central bank if it wants to.

29. E.g. see Mazzucato (2011) for a discussion of the types of investment not undertaken by the private sector, and the crucial role of the public sector in driving innovation.

30. If, for example, the fiscal expansion is an increase in spending of £10 million, then in the first instance demand will increase by at least £10 million as the government pays £10 million to the private sector for work provided. Conversely, a £10 million tax cut will have no initial effect on spending or output at all: it leaves the public with £10 million of extra disposable income, but they then have a choice of spending, save or paying down debt with the additional money.

31. Marginal propensity to consume is the fraction spent rather than saved out of each additional unit of income.

32. Given sticky prices, this increase in wealth will lead to an increase in spending (this is the ‘real balance’ effect, but with the increase in wealth brought about by an increase in the stock of money rather than a decrease in prices).

33. In a situation in which there is little spare capacity in the economy, the increase in demand from the expansion would end up falling mainly on prices. In this case the expansion financed by SMC will have the same effects as outlined above – increasing spending, demand, etc. However, while this may increase output and employment in the short term, the over-utilisation of resources will eventually bid up their prices, and output and employment will fall back to their previous levels. In short, the new sovereign money would end up competing with pre-existing money for a limited supply of real resources (including labour). However, in some situations an increase in inflation may be considered advantageous. First, inflation decreases the real value of debt – in a highly-indebted economy higher inflation could help lower the burden of debt denominated in the domestic currency without the need for defaults. However, this negatively affects those with savings, at least in the short term. Therefore, the decision to deliberately pursue a policy of higher inflation in

order to redistribute wealth from creditors to debtors should only be taken democratically, following a full debate as to the costs and benefits to society (and particular groups) of such a policy. (It should be noted that such a policy can just as well be carried out using traditional policy levers – SMC is not required).

Second, an increase in inflation will, given nominal interest rates, reduce real interest rates, which should incentivise both spending and borrowing. However, while increases in spending may be desirable given current economic conditions, it is perhaps undesirable that during a recession caused partly as a result of high levels of leverage in the private sector the policy response incentivises the private sector to take on more debt.

34. There is however the possibility that there may be a perverse effect on interest rates due to the effect of the policy on expectations. In particular, if market participants believe that a policy of money creation signals an end to a responsible inflation policy, long-term interest rate may rise.

35. This is in contrast to the normal situation in which private sector assets – bank deposits – are offset exactly with a liability – bank loans. The loans are the banks’ assets which balance their deposit liabilities. With SMC, banks’ balancing assets are the additional central bank reserves created by SMC.

36. However, these liabilities are neither redeemable nor carry coupon payments, and so do not create any current or future financial obligations on the part of the government. As a result, they cannot be considered part of the government debt in the same way that normal gilts are. Rather, as outlined in the appendix, they are merely a tool to maintain the solvency of the central bank in accordance with accountancy conventions.

37. Indeed, in Friedman’s proposal the government would no longer issue any debt at all: instead the entire deficit would be financed by creating money. Furthermore, Friedman, like Simons, would prevent banks from creating money altogether by imposing a 100% reserve requirement.

38. Lower interest rates lower the cost of borrowing, which increases the demand for loans. Because banks create money when they lend, an increase in bank lending increases aggregate demand. Conventional monetary policy therefore affects aggregate demand by incentivising the private sector to either increase or decrease its level of debt.

39. See Part 1 for the transmission mechanism of monetary policy.

40. However, it is important to note that SMC if used on its own is not a substitute for guarding against excessive levels of leverage in the private sector.

41. Countercyclical capital requirements or direct credit guidance are two possibilities. To the extent that they are used by the authorities to influence aggregate bank lending, capital requirements are simply a less direct and precise form of credit guidance.

42. If the government were to pull future spending projects forward then this may not have the desired effect, as it could entail lower levels of spending, and therefore demand, in the future.

43. The effects of sovereign money, when used to repay government debt, would only occur either as a result of changes to the flows of interest between the government sector and the private sector, or due to portfolio rebalancing. Given that bonds are less liquid than central bank reserves, in all likelihood the switch from bond to money financing would lead to lower levels of interest payments and therefore lower level of income to the private sector. Lower levels of public debt would also be expected to increase the price of bonds (other things equal), which could lead, through a search for yield, to increased demand for other financial assets.

44. Technically, the potential for abuse is no higher than in the current system.

45. However, the concept of ‘solvency’ does not strictly apply to central banks in the way that it applies to private banks or other businesses. As Bernanke (2003) states: “In particular, the private shareholders notwithstanding, the Bank of Japan [BOJ] is not a private commercial bank. It cannot go bankrupt in the sense that a private firm can, and the usual reasons that a commercial bank holds capital – to reduce incentives for excessive risk-taking, for example – do not directly apply to the BOJ”.

Likewise, Whelan (2012) argues that: “despite the common belief that central banks need to have assets that exceed their notional liabilities, there is no concrete basis for this position. Systems like the Gold Standard required a central bank to “back” the money in circulation with a specific asset but there is no such requirement when operating a modern fiat currency. A central bank operating a fiat currency could have assets that fall below the value of the money it has issued – the balance sheet could show it to be “insolvent” – without having an impact on the value of the currency in circulation. A fiat currency’s value, its real purchasing power, is determined by how much money has been supplied and the factors influencing money demand, not by the central bank’s stock of assets.”

46. In 2006 the Bank of England moved to what is known as a ‘reserves averaging’ scheme. Under this scheme, at the beginning of every month the commercial banks informed the central bank as to how many reserves they

would need on average over the course of the month. The central bank then supplied this quantity of reserves to the commercial banks (using repos) and the commercial banks were required to hold this quantity of reserves on average across the month. If any bank found itself with excess reserves then it could either lend these reserves to another bank, or, if there were no borrowers, deposit these reserves in the ‘deposit facility’ at the Bank of England. Likewise, if a bank found itself short, it could borrow reserves from other banks or, if there were no willing lenders, from the Bank of England’s ‘lending facility’. The central bank incentivised banks to hit their reserve target by paying interest on reserves at the policy rate when they were within a narrow range of their target.

By standing ready to lend reserves to banks at a higher rate of interest (than the policy rate), and pay interest on reserves deposited with it at a lower rate of interest (than the policy rate), the central bank controlled the interest rate at which private banks lent reserves to each other on the interbank market (known as the London Interbank Offered Rate, or LIBOR for short). This is because a bank looking to borrow reserves from another bank on the interbank market would not pay more than the interest rate at which it could borrow from the Bank of England. Similarly, a bank lending reserves would not accept a lower interest rate than that which it could receive by leaving its reserves in its own account at the Bank of England. These two interest rates created a ‘corridor’ around the interest rate at which the Bank of England wanted banks to lend to each other (the policy rate).

47. Before 2006, banks had to borrow reserves at interest but did not receive interest on them, and as a result banks were effectively charged for holding reserves. This discouraged them from holding reserves and provided an incentive to reduce liquidity more than was necessarily prudent.

48. Strictly, the Asset Purchase Facility Fund Ltd.

49. Larger, because a proportion of the deficit is always monetised by central bank open market operations and other monetary policy activities.

50. A more extreme version of the argument given in this section is that money creation by the state will inevitably lead to hyperinflation:

“While in principle boosting government spending to buoy up aggregate demand may have merits, achieving it through OMF [Overt Money Finance] is highly unorthodox. Spending what you like and never racking up any debt or levying any taxes is a politician’s dream. Inevitably, it will end in tears. The politicians start by promising to be responsible, but as elections approach and pressure groups lobby, the responsibility of politicians evaporates like snow in the Sahara. Visions of the Weimar republic and Zimbabwe are not mirages: they become reality under OMF” (Owen, 2013)

Under the proposal for SMC outlined here, politicians will not have control over money creation. Consequently, for hyperinflation to occur, the central bank would persistently have to create far too much money. However, given that the central bank will still be targeting inflation, domestic inflation which is persistently above target will result in a reduction or the cessation of SMC. Essentially, an independent central bank targeting inflation ensures that the process is self-limiting. It is also important to note that during a deleveraging SMC will not result in any excess money creation. Rather, private sector deleveraging will result in the destruction of commercial bank created money with sovereign money replacing the destroyed money.

Furthermore, regarding the possibility of hyperinflation, comparing the situation in Zimbabwe or the Weimar Republic to that in the UK, or any other developed country today is a false equivalency. Zimbabwe was an example of a corrupt executive in an undeveloped, undemocratic country creating money in line with their spending priorities in a desperate attempt to maintain power after the productive capacity of the economy was destroyed (Jackson & Dyson, 2012). This cannot be compared to creating money in line with an inflation target, for the public purpose, in a democratic, highly developed country, with strict governance procedures to prevent conflicts of interest. A paper by Hanke & Krus (2013) analysed all 56 episodes of hyperinflation around the world, concluding that “Hyperinflation is an economic malady that arises under extreme conditions: war, political mismanagement, and the transition from a command to market-based economy – to name a few.” Only two hyperinflations in their study occurred in democracies – the Weimar Republic and Peru, suggesting that hyperinflation is in fact more a symptom of an undemocratic regimes than anything else.

51. Many of the costs of money creation are not borne solely by private banks, but instead by society as a whole (i.e. banks are able to externalise the costs of money creation).

52. The term ‘Chicago School’ is generally associated with laissez faire economic policies and the monetarism of Milton Friedman. However, before this school there was what could be termed an ‘Old’ Chicago school during the 1920s and 30s. Economists at the University of Chicago during this period included Henry Simons, Paul Douglas, Frank Knight, Lloyd Mints and Jacob Viner. Ideologically these economists were quite diverse – some advocated what would later come to be known as Keynesian policies. Indeed, as Milton Friedman (1972) noted: “so far as policy was concerned, Keynes had nothing to offer those of us who had sat at the feet of Simons, Mints, Knight, and Viner.”

53. As Laidler and Sandilands (2002) explain: “In due course, first at the Federal Reserve Board, and later at the Treasury and the White House, Currie would become a highly visible and leading advocate of expansionary fiscal policy, while White, at the Treasury, was to be a co-architect, with Keynes, of the Bretton Woods system. ... The third author, P. T. Ellsworth, later a Professor of Economics at the University of Wisconsin, is perhaps best remembered nowadays as the author of a leading textbook in International Economics, though it is worth noting that he was also a very early (late 1936) but hitherto unrecognised discoverer of what came to be called the IS - LM model as a means of elucidating issues raised by Keynes’ General Theory.”

54. In 1723, the Pennsylvanian assembly created a total of \$55,000, \$7,500 of which was directly spent into circulation on essential public works (Province and Commonwealth of Pennsylvania, 1723). The consensus amongst historians on Pennsylvania’s monetary experience is uniformly positive. Ferguson (1953) notes that “Pennsylvania’s currency was esteemed by all classes and regarded as having contributed to the growth and prosperity of the colony” (p. 159), as well as that “Favourable testimony can be found in nearly all commentators, modern or contemporary”. The interest paid on money lent by the state “supported the costs of provincial administration, without the necessity of direct taxes. This relative freedom from taxation probably contributed to Pennsylvania’s remarkable growth”. (Ferguson, 1953, p. 169) As well as high levels of growth, Lester (1938, as cited in Zarlenga, 2002) found that prices from 1721 until 1775 were more stable than in any subsequent period of equal length. In addition, by also lending money into circulation at 5 per cent, the general rate of interest in Pennsylvania, which had been at 8 per cent, was lowered.

55. The loan to the government was made at extremely low rates of interest (1%-1.5%) and the house building scheme helped to lift the country out of the Great Depression. (Greasley & Oxley, 2002).

56. King Henry I initiated the use of tally sticks during the mid-1100s. They remained in use in England until 1826.

57. Although the UK opted out of adopting the euro, it nevertheless was obliged to adopt all the procedures of the Maastricht Treaty.

58. The repayment of the Ways and Means advance had the effect of immediately draining reserves from the banking system. To offset this drain, the Bank of England engaged in short-term repo operations with the markets to resupply the required quantity of central bank reserves.

For the consolidated government sector (the government and the central bank combined), the net effect of repaying the Ways and Means Advance was to increase interest payments from the consolidated government sector to the private sector

From the government’s perspective, the repayment of the advance swapped one liability to the central bank (the Ways and Means Advance) to another to the private sector (government bonds). Therefore, from the government’s perspective it replaced one perpetual (interest free) debt to the central bank with another (interest bearing) debt to the private sector.

From the central bank’s perspective, it swapped one asset held against the government (the ways and means advance) with another, a repo on the banking sector. Because the repo rate (i.e. the lending rate to banks) is the same as the interest rate paid on central bank reserves (i.e. the flows cancel out) holding reserves is revenue-neutral for the banking sector. From 2008 (and the implementation of QE) these reserves would have resulted in a net payment of interest from the central bank to the banking sector (as the banks didn’t borrow them).

Consolidating the central bank and government sectors causes the assets, liabilities and obligations (flows) between the two sectors to cancel out. Therefore the net effect of repaying the Ways and Means Advance was to increase the interest rate paid from the consolidated government sector to the private sector, increasing the obligations of government. (Given that interest rates on gilts are higher than on central bank reserves).

59. The provision of an overdraft facility to the government is prohibited by article 123 of the “Consolidated Version of the Treaty on the Functioning of the European Union” (which superseded the Maastricht treaty):

“Overdraft facilities or any other type of credit facility with the European Central Bank or with the central banks of the Member States (hereinafter referred to as ‘national central banks’) in favour of Union institutions, bodies, offices or agencies, central governments, regional, local or other public authorities, other bodies governed by public law, or public undertakings of Member States shall be prohibited, as shall the purchase directly from them by the European Central Bank or national central banks of debt instruments.”

Consequently, the UK government violated the treaty when, in December 2008, the UK Treasury borrowed temporarily from the Bank of England in order to fund the refinancing of loans that the Bank of England had earlier made to the Financial Services Compensation Scheme and to Bradford & Bingley. Although the overdraft was repaid relatively quickly, its use shows European Law is trumped by the national interest when it is convenient for government.

It should also be noted that article 123 was intended to prevent fiscal irresponsibility during a period of increased private leveraging. As McCulley and Pozsar (2013) point out, seeking to constrain government is useful when the private sector is increasing its leverage, but when the private sector is attempting to reduce its leverage, constraining the government's ability to increase demand risks leading to a prolonged slump. In such conditions private sector deleveraging will take longer than needs be, and so output will remain lower and unemployment higher as a result.

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**Author:** Andrew Jackson

**Editor:** Ben Dyson

**Design:** Henry Edmonds

Positive Money  
205 Davina House  
137-149 Goswell Road  
London  
EC1V 7ET

**Tel:** 0207 253 3235

**Email:** [info@positivemoney.org](mailto:info@positivemoney.org)

**Website:** [www.positivemoney.org](http://www.positivemoney.org)

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