

# SOVEREIGN MONEY

## An Introduction

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# INTRODUCTION

This paper presents a reform to the banking system that would remove the ability of banks to create money, in the form of bank deposits, when they make loans. It would transfer the ability to create new money exclusively to the state, creating what we have termed a ‘sovereign money’ system.

The proposal has its origins in the writings of Frederick Soddy (1926). It was presented to US president Franklin D. Roosevelt by Frank Knight and Henry Simons in the aftermath of the Great Depression (Knight et al., 1933, Simons et al., 1933), and popularised by Irving Fisher’s book *100% Money* (Fisher, 1935)<sup>1</sup>. Variations of these ideas have since been proposed by Milton Friedman (1960), James Tobin (1987), John Kay (2009) and Laurence Kotlikoff (2010).

More recently, economists at the International Monetary Fund modelled Irving Fisher’s original proposal, as applied to the US economy in 2006, and found both “strong support” for all of its claimed benefits and extra positive effects (Benes & Kumhof, 2012). Since then, the idea has been supported by the Financial Times’ chief economics commentator, Martin Wolf (2014a, 2014b), and highlighted by former Bank of England Governor Mervyn King (2010, 2016), former chairman of the UK’s Financial Services Authority, Adair Turner (2012, 2014, 2015), and a Vice-President of the European Central Bank, Vitor Constâncio (2016).

While inspired by Irving Fisher’s original work, the proposals in this paper have some significant differences. Our starting point has been the work of Joseph Huber and James Robertson in their book *Creating New Money* (2000), which updated Fisher’s proposals to recognise that money, the payments system and banking in general is now electronic, rather than paper-based. The reforms presented here build on Huber and Robertson’s proposal and draw on further research by Positive Money between 2010 and 2016.

Similar proposals have been referred to as ‘100% money’ or ‘full reserve banking’. However, there are some subtle technical differences between those proposals and the one in this paper (for a comparison, see Huber, 2015). We therefore refer to this specific reform as a ‘sovereign money system’, describing a system in which money as a means of payment is created exclusively by the state, usually via the central bank.

This introduction to a sovereign money system takes account of feedback, suggestions and constructive criticism from a wide range of economists and commentators, for which we are extremely grateful. There is still considerable research to do around how a sovereign money system could work in practice, and we hope this paper will provide a starting point for more in-depth research. We particularly welcome collaboration with the wider research community to address these questions.

The structure of the paper is as follows:

- The **Executive Summary** provides a brief overview of the proposal.
- **Chapter 1** explains how money is created today, and what constraints are placed on money creation in the current monetary system.
- **Chapter 2** highlights some of the social, economic and environmental problems caused by the current monetary system and explores how a switch to a Sovereign Money system could help to address each of them.

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<sup>1</sup> For an excellent history of these proposals, see Laina (2015), or for a much more detailed history of the developments in the United States around the 1930s, see Phillips (1994).

- **Chapter 3** describes the finer details of the reforms as they relate to the structure and operations of banks, and the payments and lending services they provide to customers.
- **Chapter 4** provides a more comprehensive description of the process of money creation and the monetary policy framework in a sovereign money system.
- **Chapter 5** explains how the transition to a sovereign money system could be made.
- **Chapter 6** deals with five common critiques that are levelled against these proposals.

# EXECUTIVE SUMMARY

More than 97% of the money used by people and businesses in the UK exists in the form of bank deposits at commercial – i.e. ‘high-street’ – banks. Less than 3% exists as physical cash that is created by the state, via central banks such as the Bank of England. A similar situation exists in most countries around the world.

Banks create new money in the form of the numbers (bank deposits) that appear in bank accounts, through the accounting process used when they make loans. In the words of the Bank of England:

“When a bank makes a loan, for example to someone taking out a mortgage to buy a house, it does not typically do so by giving them thousands of pounds worth of banknotes. Instead, it credits their bank account with a bank deposit of the size of the mortgage. **At that moment, new money is created.**” (Bank of England Quarterly Bulletin, 2014 Q1)

Conversely, when people use those deposits to repay loans, the process is reversed and money effectively disappears from the economy. As the Bank of England describes:

“Just as taking out a loan creates new money, **the repayment of bank loans destroys money.** ... Banks making loans and consumers repaying them are the most significant ways in which bank deposits are created and destroyed in the modern economy.” (McLeay et al., 2014)

This power to create money, in the hands of commercial banks, has been highlighted as one of the root causes of both the Great Depression of the 1930s and the financial crisis of 2007-2009. The former chairman of the UK’s Financial Services Authority, Adair Turner, has argued that: “The financial crisis of 2007/08 occurred because we failed to constrain the private financial system’s creation of private credit and money” (Turner, 2012). Our analysis also suggests that this ability to create money contributes to a wide range of social, economic and environmental problems.

The reforms to the banking system presented in this paper would remove the ability of banks to create money, in the form of bank deposits, when they make loans. It would transfer the ability to create new money exclusively to the state, creating what we have termed a ‘sovereign money’ system. We argue that such a reform would have very significant advantages, and could address a range of problems that would be much more difficult to tackle individually.

## The Proposals in Brief<sup>2</sup>

The sovereign money approach is based on the view that:

1. Money creation can be conducted more effectively and appropriately by the state than by commercial banks, and
2. The payment system would be safer if it were separated from the lending activity of banks.

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<sup>2</sup> A version of the overview given here was first published in Dyson et al. (2016) and first appeared in the Cambridge Journal of Economics.



A sovereign money system differs from the current monetary system in two key ways. The first is that the central bank's primary instrument of monetary policy would cease to be the management of the policy ('base' or 'Bank') interest rate, and would instead become the management of the rate at which the central bank directly created new money. The second is that commercial banks would lose their capacity to create 'money' in the form of demand deposits, becoming simple intermediaries between savers and borrowers. As a result, private money creation would be eliminated and replaced exclusively by money creation through the state, on behalf of the public interest. Instead of encouraging or discouraging the accumulation of private sector debt by manipulating interest rates, the central bank would moderate the pace of economic activity by directly controlling the rate at which additional money would be created, or, in rare cases, destroyed.

In a sovereign money system, payments would be made via transfers between Transaction Accounts which would hold risk-free central bank money ("sovereign electronic money"). Funds in Transaction Accounts would be held in full at the central bank (recorded as liabilities of the central bank), but the payment services connected to these accounts would be administered by private sector payment institutions (which could be subsidiaries of banks). By design, payment institutions would never expose customers' funds to risk.

The intermediary function of banks – gathering savings and making loans – would take place through 'Investment Accounts'. A customer wishing to make savings or investments in order to earn interest would transfer funds from their Transaction Account to their bank's account at the central bank. The bank would set up an Investment Account for the customer, which would be a liability of the bank, representing the investment made and the bank's obligation to repay the funds in the future. The customer would have to agree to either a notice period required before accessing his/her money, or a maturity date on which the investment would be repaid. There would be no 'instant-access' investment accounts. Banks would therefore become true intermediaries between savers and borrowers, and would no longer be able to create money through the act of lending.

The objective and target of monetary policy would be set by government, as it is today. In the UK this objective is currently to deliver "price stability" (defined by an inflation target of 2%), and subject to that, to "support the Government's economic objectives including those for growth and employment." With banks no longer able to create money, the task of creating new money as required to manage the pace of economic activity would fall to the central bank. Rather than relying on the policy rate of interest<sup>3</sup> to influence the borrowing and saving of households and businesses (and the consequential money creation by banks), the central bank would instead use its own powers of money creation to directly influence spending in order to meet its monetary policy objectives.

The central bank's decision making committee (e.g. the MPC in the UK or FOMC in the US) would calculate the change in aggregate demand it believed to be consistent with its target, just as it does today when deciding on interest rate changes (Bank of England, 1999). It would aim to generate this change in spending by creating new money, which it would grant to the Treasury. The Treasury would then distribute this newly created money through one or more of the following channels:

1. Citizen's Dividends (equal payments made to every citizen)
2. Increased government spending
3. Reduced taxes (through tax reductions or rebates, using the newly created money to compensate the government for the lower tax revenue)
4. Indirectly financing lending to businesses (via banks and non-bank lenders)

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<sup>3</sup> The central bank would no longer set a policy rate of interest.

Consequently, in a sovereign money system, monetary policy would normally work by financing a new fiscal stimulus, boosting spending and aggregate demand.

Importantly, so long as appropriate institutional arrangements were put in place, the spending financed by central bank money creation would be directed into the real economy, whereas much of the spending currently financed by commercial bank money creation is directed into property and financial asset markets. Consequently, money creation by the central bank in a sovereign money system would have a greater impact on aggregate demand, economic activity and employment than an equivalent amount of money creation (as it is currently allocated between sectors) by commercial banks.

### ***Transition to a Sovereign Money System***

There are two broad choices for the transition process – either a phased-in approach, or an immediate switch. Our proposals ensure that either approach could be implemented without disruption to the wider economy.

In the first, phased-in approach, the central bank would start to create money directly, transferring this money to the government for spending into the economy, as described above. However, banks would still be permitted to operate as they currently do, creating money in the process of making loans. Over time, the amount of money that banks could create would be progressively restricted. A larger proportion of new money needed to replace the money cancelled out by loan repayments, and any necessary additions to aggregate demand, would come from money creation by the central bank. Whilst this hybrid arrangement was in place, this would constitute a partial Sovereign Money system. Eventually a conversion date would be agreed, at which banks would be required to switch over to the structure of banking described above, and would therefore lose their ability to create money.

A more rapid approach would be to transfer the power to create money from banks to the central bank overnight, switching immediately to a full Sovereign Money system. This could be done without changing the net wealth of banks, businesses or households, and without causing a damaging contraction in the amount of credit available. In this overnight process, the bank-issued demand deposit liabilities to the general public that make up the money we use would be taken over as liabilities of the central bank and converted into state-issued sovereign money held in accounts for the public at the central bank. Instead of having a liability to their customers, each bank would then have an equivalent liability to the central bank (so that there would be no overall impact on the size or nature of each bank's balance sheet, and no windfall profit for the banking sector). The state-issued sovereign money would be recorded as an accounting liability of the central bank, balanced on the balance sheet by these new liabilities of the commercial banks and by non-interest-bearing zero-coupon bonds.

# 1. UNDERSTANDING THE CURRENT MONETARY SYSTEM

## 1.1 What is ‘money’ today?

More than 97% of the money used by people and businesses in the UK exists in the form of bank deposits at commercial – i.e. ‘high-street’ – banks. Less than 3% exists as physical cash that is created by the state, via central banks<sup>1</sup> such as the Bank of England. A similar situation exists in most countries around the world.

Banks create new money in the form of the numbers (bank deposits) that appear in bank accounts, through the accounting process used when they make loans<sup>2</sup>. In the words of the Bank of England:

“When a bank makes a loan, for example to someone taking out a mortgage to buy a house, it does not typically do so by giving them thousands of pounds worth of banknotes. Instead, it credits their bank account with a bank deposit of the size of the mortgage. **At that moment, new money is created.**” (Bank of England Quarterly Bulletin, 2014 Q1)

Conversely, when people use those deposits to repay loans, the process is reversed and money effectively disappears from the economy. As the Bank of England describes:

“Just as taking out a loan creates new money, **the repayment of bank loans destroys money.** ... Banks making loans and consumers repaying them are the most significant ways in which bank deposits are created and destroyed in the modern economy.” (Bank of England Quarterly Bulletin, 2014 Q1)

Legally, bank deposits represent a promise by the bank to pay out (or transfer) state-issued money on demand. But it can be misleading to think of bank deposits as simply an “IOU of state money”. Bank deposits are now the primary means of payment, used in over half of all UK transactions by volume, and over 99% of total transactions by value (Payments Council, 2014). From the perspective of businesses and households, bank deposits are equivalent to having cash in hand. In a practical sense, bank deposits *are* money. (To avoid confusion with other types of money, we will continue to refer to them specifically as bank deposits throughout this paper.)

The deposits created by banks as they lend are ‘backed’ by risk-bearing financial assets – loans, mortgages etc. – and a small pool of central bank money held in the form of electronic ‘central bank reserves’ in accounts at the central bank (such as the Bank of England, US Federal Reserve or European Central Bank). With this in mind one might expect the value of bank deposits to go up or down depending on the quality of the underlying

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<sup>1</sup> In many countries, central banks handle the creation of paper notes, whilst Treasuries handle the creation of coins.

<sup>2</sup> Bank deposits are accounting liabilities representing IOUs from banks to their customers. When banks issue loans, they simultaneously create new deposits (liabilities) and a new asset (the loan). This is simple double-entry bookkeeping: the bank debits “Loans”, increasing the value of its assets, and credits “Deposits (Borrower’s Account)”, increasing the size of its liabilities by an equal amount.

assets. However, banks always commit to exchange demand deposits for cash - and vice versa - at a 1:1 ratio ('at par', in the jargon). This is a feature that distinguishes bank deposits from almost all other forms of credit: regardless of the quality of the bank's underlying assets, £1 of bank deposits can always be exchanged for £1 of physical cash, and vice versa.

Maintaining this 1:1 exchange rate between cash and deposits would be impossible without significant support from the state<sup>3</sup>. Banks benefit from two kinds of 'official support'. Firstly, 'liquidity guarantees', such as the central bank's Lender of Last Resort function, ensure that banks can always borrow from the central bank even if no other entity will lend to them, ensuring that they can still settle their payments. Secondly, 'credit guarantees' include schemes such as the Financial Services Compensation Scheme (UK) and Federal Deposit Insurance Corporation (USA), which promise to repay deposits in the event of a bank failure, effectively guaranteeing the liabilities of private companies with the full backing of the state (Pozsar et al., 2013). So while bank deposits appear to be the liabilities of private sector firms, the existence of this official support from the state means that they are really contingent liabilities of the state (and ultimately of the taxpayer). The last crisis, in which multiple banks around the world had to be rescued by governments, made this very clear.

## 1.2 Bank lending drives the money creation process

Most undergraduate economics textbooks describe the money creation process starting with a decision by a central bank to 'inject' central bank money into the banking system. The banks are then said to 'multiply' this amount of money as it is lent out and re-deposited. There are numerous critiques of the many technical flaws in this description of this 'money multiplier' model of the money creation process<sup>4</sup>. However, the most problematic aspect of this story is that it gives the impression that the money creation process is initiated and controlled by the central bank.

In reality it is commercial banks, and not the central bank, that drive the money creation process. To see why this is the case, we first need to look at the two types of 'central bank money' that are created by central banks.

The first type of central bank money is **physical cash – notes and coins**. In the UK, physical cash makes up 3% of the money held by the private sector (households and businesses) at any point in time. The central bank creates notes and coins in response to demand for physical cash from banks<sup>5</sup>. This demand is in turn driven by the demand from customers to withdraw and temporarily hold physical cash from ATMs and branches. The central bank will always create as much physical cash as is needed to meet that demand.

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<sup>3</sup> Perry Merhling's lecture course *The Economics of Money and Banking* on Coursera has a nice introduction to this state support in Weeks 1 and 2. See <https://www.coursera.org/learn/money-banking>

<sup>4</sup> See for example, McLeay et al. (2014), Ryan-Collins et al. (2011) or Jackson & Dyson (2013)

<sup>5</sup> A commercial bank can 'buy' physical cash from the central bank in exchange for a reduction in the balance of its account at the central bank. From a commercial bank's perspective, this is simply an asset swap – it loses an asset in the form of reserves in its account at the central bank, but gains an asset in the form of physical cash. Then, when a customer withdraws that physical cash via an ATM or bank branch, the bank reduces the customer's account balance and hands over the cash. In this case, the bank's balance sheet 'contracts', as it simultaneously loses both an asset (the cash) and a liability (the bank deposits). Note that a member of the public can withdraw physical cash only if they first have bank deposits in their account. In other words, the creation of bank deposits *precedes* the supply of physical cash to the economy.

Customers can withdraw cash from a bank branch only if they first have a positive balance of demand deposits (or an overdraft). This means that the creation of bank deposits, by a bank issuing a loan (or granting an overdraft), **must** happen before anyone can acquire physical cash<sup>6</sup>.

The second type of central bank money takes the form of **central bank reserves**. Central bank reserves are deposits (electronic balances) that commercial banks hold in accounts at the central bank. They are effectively an electronic equivalent of cash. But unlike physical cash, which can be held by the public, reserves can be held only by the small number of banks and other financial institutions that have accounts at the central bank. Reserves are liabilities of the central bank, and assets of the commercial banks that hold those reserves.

Central bank reserves serve as the means of final settlement (payment) between banks themselves and between banks and certain other financial institutions. When customers (households and businesses) make payments between each other, the main payment systems (e.g. BACS and FasterPayments in the UK) queue these payments and calculate the net differences between the total payment flows in each direction. Then, at the end of the clearing cycle, the reserves equivalent to the net difference is transferred **from** banks with net outflows **to** banks with net inflows<sup>7</sup>.

Central bank reserves are created by the central bank, at will, when it lends them to banks against collateral (typically government bonds). The commercial bank receives a credit to its reserve account, which is balanced by its own 'repo'<sup>8</sup> liability to the central bank. The central bank supplies whatever quantity of reserves that the banks demand, in order to ensure that the interest rate in the interbank market matches the central bank's target policy rate (the base rate).

### 1.3 Central bank money is created to support commercial bank money

As described above, bank deposits are created when banks issue loans, and destroyed when loans are repaid. Cash is created by the central bank and supplied in response to demand by deposit holders to exchange their deposits for cash. This means that the demand for physical cash can arise only *after* deposits have been created via bank lending. Likewise, the demand from banks for central bank reserves arises as a result of the need to settle the net payment flows (of deposits) between banks' customers, and central banks will create and lend reserves in order to meet all the demand from banks at a particular policy rate.

From this we can see that it is *bank lending* that drives the creation of money. Central bank money is created to support and facilitate this creation of private money. The banks

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<sup>6</sup> Note that the government/state never distributes cash into the economy by paying suppliers or employees with newly minted cash. The only route for physical cash to get into the economy is through withdrawals from ATMs and bank branches.

<sup>7</sup> A visual explanation of this process is given in Part 3 of Positive Money's "Banking 101" animation series. <http://positivemoney.org/how-money-works/banking-101-video-course/>

<sup>8</sup> A 'repo' or sale and repurchase agreement is essentially a loan with collateral. The central bank 'lends' the commercial bank some newly created money by purchasing another financial asset, such as a government bond, which serves as collateral. At the same time, they sign a contract agreeing to reverse the transaction at a future date by selling the collateral back to the original borrower.

are the primary actor here, whilst the central bank creates state money reactively in response to the actions of the banks. This is the opposite sequence of events to that presented by the conventional textbook ‘multiplier’ model.

## 1.4 The allocation of bank-issued money and credit

Many orthodox textbooks, and indeed a good number of modern economic models, assume that banks create bank deposits primarily in response to entrepreneurs’ demand for loans. A common story runs that the bank issues a loan to an entrepreneur who has good ideas but no money to implement them. The entrepreneur uses these funds to buy machinery and employ staff. The resulting goods or services are sold in the economy, generating the income which the business uses to pay off the outstanding loan.

In this story, money creation by banks is both benign and positively beneficial. Jobs are created, wealth is produced, and the whole economy is better off as a result. But this story only applies to the minority of bank lending today.

In reality, in the UK at least, most bank lending (and the resulting money creation) does not directly finance production. Indeed, most bank lending does not even finance activities that *indirectly* contribute to output and GDP. Instead, the majority of bank lending finances the purchase of pre-existing assets, especially property. As Howells described as early as 2000, “If it was ever true that loans originated largely with firms’ need for working capital, it is now abundantly clear that the demand for credit rests very heavily upon asset (‘speculative’) and intermediate transactions which have grown much more rapidly than GDP.” (Howells, 2000).

Bank of England statistics suggest that of the increase in total lending between 1997 and 2007 in the UK, just 8% went to businesses outside the financial sector. Of the rest, approximately 51% of additional net lending was directed towards commercial or residential property (mortgages on office buildings and homes). Whilst some of this lending creates the demand for the construction of new property (contributing to GDP and employment), the bulk of it simply had the effect of inflating house prices relative to earnings.

A further 8% was directed towards consumer credit, financing the sales of goods and services, and therefore directly contributing to GDP. However, this is a mixed blessing: whilst it creates additional demand in the present, those borrowers must divert some of their future income from spending towards debt servicing and repayments.

It is therefore more accurate to describe modern banks as entities that create new money to finance the purchase of pre-existing assets (which do not contribute to GDP), rather than entities that finance the production process. We will look at why this is such a problem shortly.

## 1.5 Determining the level of money creation

### ***The profit motive***

Banks do not create money for the sake of creating money; indeed, in our experience many people working in banks tend to think of banks as pure intermediaries (middlemen between savers and borrowers), and are generally unaware that bank loans create new deposits. So bank employees make intentional decisions over how much they should lend, who to, and what for, driven by commercial incentives, but the creation of money is simply a by-product of this activity.

Fontana & Sawyer (2016) write that “the amount of money which is created within any time period depends on the willingness of both banks to extend loans, and households and businesses to take out loans.” This is true: a bank cannot make a loan unless it can find a willing borrower. It cannot force anyone to borrow. However, we should avoid the trap of thinking of banks as public servants who passively wait for the opportunity to grant loans to creditworthy businesses and households.

In reality, banks are profit-seeking businesses, and their main product is debt. They use incentive schemes and targets to encourage their staff to ‘sell’ (lend) more, whilst using marketing and sales strategies to encourage households to ‘buy’ (borrow) more. At the same time, they are in competition with other banks, aiming to increase both their market share and absolute size. At no point is the bank obliged or incentivised to consider the impact of its lending and money creation on wider issues such as the sustainability of household debt levels, housing affordability, or financial instability.

Banks reap the private benefit of creating money, in the form of interest on the debt that backs that newly created money. However, the social costs of their creation of money (discussed in the next chapter) fall upon society more widely. Since banks do not face the ‘negative externalities’ of their private money creation, they face powerful incentives to create “sub-optimally large” volumes of credit and money, and direct most of this credit into property and asset markets rather than investment in production (Turner, 2015). This power to create money, in the hands of commercial banks, has been highlighted as one of the root causes of both the Great Depression of the 1930s and the financial crisis of 2007-2009. Adair Turner, the former chairman of the UK’s Financial Services Authority, has argued that, “The financial crisis of 2007/08 occurred because we failed to constrain the private financial system’s creation of private credit and money” (Turner, 2012).

### **Constraints**

Of course, central banks and regulators now recognise that these asymmetric incentives will drive banks to fuel credit bubbles and generate financial instability. But their tools to prevent this happening again are limited. The use of interest rates to influence banks’ money creation has been shown to be a blunt and ineffective tool: it had little impact on slowing the credit bubble pre-crisis, and was unable to stimulate the economy post-crisis (forcing central banks to turn to unconventional policies such as Quantitative Easing).

So what actually does constrain banks’ creation of money? Ryan-Collins et al. (2011) explain that the effective constraints on bank lending are a) capital, specifically capital adequacy requirements, (to the extent that they are not circumvented by banks), and b) confidence in the likelihood of being repaid, which in turn depends on their confidence in the future health of the economy. In other words, it is banks’ capacity to absorb risk, and their perception of the level of risk, which constrains their lending.

### **Pro-cyclicality**

The problem is that both capital and banks’ confidence in the economy can be highly pro-cyclical. In the good times, banks’ default rates are low and their loans are profitable. Any bank’s profit that is not distributed to shareholders or paid to the government in tax becomes “retained earnings”. This increases the bank’s capital, improving its capital adequacy ratio and giving the bank ‘capacity’ on the balance sheet to expand its lending at a faster rate. At the same time, its confidence in the future health of the economy improves. Banks become willing to lend to a wider range of borrowers, and weaken their lending criteria (i.e. lowering collateral requirements and minimum credit scores, and offering higher loan-to-value ratios on mortgages). Their additional lending causes the economy to grow and house prices to rise, further increasing their confidence in the economy in a pro-cyclical, self-validating process. This dynamic is most obvious in the housing market (Turner, 2015).

Eventually, the rising debt levels lead to a financial crisis (Kindleberger & Aliber, 2005; Schularick & Taylor, 2009). On the downward phase of the cycle, bank losses reduce bank capital, leading to worsening capital adequacy ratios. The fastest way for banks to increase their capital is to reduce the size of their risky assets, by calling in loans or restricting new lending whilst waiting for existing loans to be paid down by a significant amount. This reduces their stock of risk-bearing loans, relative to their existing capital, and so improves their capital ratios.

This all results in a highly pro-cyclical and unstable monetary system. In the next chapter we argue that this monetary system is a key driver of financial instability, asset price bubbles, unaffordable housing, and unsustainably high private sector debt. It also has implications for wealth inequality, public sector finances and may exacerbate ecological problems.

## 1.6 Is better regulation sufficient?

Many critics of the sovereign money approach to monetary and banking reform would suggest that all that is needed is better regulation. But this relies on a faith in the ability of regulators that recent history does not justify. After every crisis, regulators claim to have learnt the mistakes and taken measures to prevent them from happening again, yet it is only a number of years before a new crisis emerges. In addition, regulations that successfully address the cause of a crisis will eventually come under attack from lobbyists, on the basis that since the same problem hasn't re-occurred for years, the regulations are no longer needed<sup>9</sup>. In contrast, the sovereign money approach sees the current system as being inherently unmanageable, primarily because the private banking sector faces incentives and interests that are not aligned with – and cannot be aligned with – the public interest. Consequently, we advocate transferring the power to create money to an organisation whose incentives are aligned with the public interest. How this can be done is discussed in chapters 4 and 5.

We now look at the social, economic and environmental consequences of the current monetary system, and how they could be addressed by switching to a sovereign money system.

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<sup>9</sup> A prime example of this is that in the USA, the Glass–Steagall legislation was enacted by the United States Congress in 1933 as part of the 1933 Banking Act, amended as part of the 1935 Banking Act, and was mostly repealed in 1999 by the Gramm–Leach–Bliley Act (GLBA).



## 2. CONSEQUENCES OF THE CURRENT MONETARY SYSTEM, AND SOVEREIGN MONEY AS A SOLUTION

### 2.1 Economic benefits

#### *Creating a safer banking system*

**Problem:** As discussed, in the current system, around 97% of money consists of bank deposits. As deposits are liabilities of commercial banks, they are ultimately dependent on the sum total value of all banks' assets. A fall in the price of a bank's assets (or defaults on its loans) can, if large enough, wipe out the bank's capital and lead to insolvency (bank failure). In the event of a bank failure, these deposits would become 'frozen' and unable to be spent. In the case of the failure of Royal Bank of Scotland in 2008, if the bank had not been rescued by taxpayers, millions of customers would have been unable to withdraw cash or make payments. This would have had a devastating effect on the real economy, as well as causing panic that could have resulted in runs on the rest of the banking system. In the worst case scenario this could have resulted in a reversion to a cash-only economy. The payments system underpins the real economy, and the health of that payments system currently depends on banks not taking excessive risks, even though risk taking is inherent to banking. Ultimately, it depends on the readiness of the government to rescue banks when they fail.

To prevent banks failing (which would threaten the payments system and the real economy), governments resort to high levels of regulation and supervision of banks. However, the complexity of this regulation (such as the 500+ page Basel III or the 8,000+ page Dodd-Frank bill in the USA) means that it is certain to be full of loopholes and therefore largely ineffective.

In addition, to prevent runs on banks (which could bring down banks and the payments system), the UK government provides deposit insurance, a £75,000 guarantee on the balance of each individual's account. But this results in the state underwriting (guaranteeing) the liabilities of private banking corporations. It means that the liabilities of banks are, in effect, the contingent liabilities of the state<sup>10</sup>. When a bank fails, the government is faced with a choice of (a) liquidating the bank and becoming liable to reimburse all depositors, or (b) injecting capital to restore the bank's balance sheet (a bail-out). It will almost always be cheaper and quicker to bail out the bank than to liquidate it, meaning that no bank beyond a certain size will be allowed to fail. Thus deposit insurance, rather than making the system safer, actually protects banks from the consequences of their own actions, encourages greater risk taking, and therefore makes the system riskier. This effect is known as a moral hazard.)

**Advantages of a sovereign money system:** In a sovereign money system, the payments system (made up mainly of Transaction Accounts) would be technologically and financially

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<sup>10</sup> Deposit insurance is initially funded by contributions from banks and building societies to the Financial Services Compensation Scheme. However, the assets of the FSCS are insufficient to cover the assets of even small UK banks, meaning that the government and taxpayer is ultimately liable for bank failures.

separated from the risky investing and lending of banks. The money that is used by the real economy to make payments would exist as account balances at the central bank, rather than being liabilities of the commercial banks. This means that even if a commercial bank's lending business were to fail due to bad investments, the Transaction Accounts that it administered could easily be transferred to a functioning bank with no loss to the taxpayer or account holders.

This knowledge that banks could be allowed to fail without causing the payments system to freeze or collapse means that moral hazard would be reduced. Banks would have an incentive to take lower levels of risk (because there would be no option of a bailout or rescue from the taxpayer). The fact that bank failure would not pose such a threat to the real economy means there would be less need to use complex regulation to protect taxpayers. Simpler regulation is likely to have fewer loopholes and therefore be more effective in safeguarding economic stability. (Of course, regulations such as consumer protection, anti-money laundering and so on are still essential.)

### ***Increasing economic stability***

**Problem:** Bank lending (and the consequent money creation) tends to be pro-cyclical. When the economy is improving, banks become more willing to lend. This creates further demand (or house price inflation) which leads to greater confidence about the future health of the economy, and an even greater willingness to lend. But ultimately the ever-higher levels of private debt result in a financial crisis. Post-crisis, banks are unwilling to lend (because their capital is impaired by losses and they are not confident that borrowers will be able to repay), and the real economy suffers through a shortage of credit and spending.

In a post-crisis environment, there is a real risk of a 'debt deflation' scenario outlined by Irving Fisher (1933), or the 'balance sheet' recession outlined by Richard Koo (2009). The higher the levels of private debt following a crisis, the harder it is to recover from the recession.

**Advantages of a sovereign money system:** Because banks in a sovereign money system would no longer be money creators, they would have less ability to generate financial instability. If the economy appeared likely to fall into recession, the central bank would be able to act in a counter-cyclical fashion and use its ability to create money to finance stimulus spending, so boosting aggregate demand and economic output. In contrast, if the economy appeared to be entering a boom, the central bank would reduce its rate of creation of new money. This counter-cyclical (rather than pro-cyclical) money creation, and the consequent spending, could be used to stabilise the economy.

### ***Reducing the dependence on debt***

**Problem:** In the current system new money is created by banks when they issue loans. Central banks aim to boost spending and aggregate demand by influencing how much money banks create: they lower the *base rate*, in an attempt to get banks to lower their own interest rates, in the hope that people will borrow more and banks will lend more (and therefore create more money). However, this means that the central bank's monetary policy traditionally works by increasing the level of private sector debt (i.e. the debt of households and businesses).

The last few decades suggest that we need the level of bank lending, and therefore the amount of outstanding private debt, to grow faster than GDP in order to produce positive growth in GDP (Turner, 2014). But other research has shown that rising levels of bank credit (and therefore private debt) tend to lead to a financial crisis (Schularick & Taylor, 2009). The current system therefore gives central banks a real policy dilemma:

- To grow our economy, we must encourage bank lending and private debt to grow faster than the desired growth in GDP
- If bank lending and private debt consistently grows faster than GDP, it ultimately leads to a financial crisis.

**Advantages of a sovereign money system:** In a sovereign money system, the central bank would be able to finance additional spending by creating new electronic money, which it would transfer to the government to be spent into the real economy. No household or business would have to borrow in order for this process to take place. This means that the central bank could provide additional spending and demand *without* relying on households or businesses to increase their borrowing and debt levels. Consequently, monetary policy could boost spending without simultaneously increasing the level of private debt and the risk of a financial crisis.

In addition, the changes made in the transition to a sovereign money system would make it possible for debt repayments to be gradually recycled back into the economy in a way that could lead to a significant reduction in private debt levels<sup>11</sup>.

### **Supporting the real economy**

**Problem:** Because almost all of our money is created as a result of bank lending, the lending preferences of banks determine which type of spending is financed by new money creation. In practice, this has resulted in the bulk of newly created money going into property markets and to the financial sector. According to Bank of England figures, between 1997-2007, of the additional money created by bank lending, 31% went towards mortgage lending, 20% towards commercial property, and 32% to the financial sector (including mergers and acquisitions, trading and financial markets). Just 8% went to businesses outside the financial sector, whilst a further 8% financed credit cards and personal loans. Yet it is only ultimately the last two – lending to businesses and consumer credit – that have a real and direct impact on GDP and economic output. In short, we presently have a system where very little of the money created by banks is used in a way that leads to economic output or value creation. Instead, the majority of the money created has the effect of inflating property prices, exacerbating wealth inequalities and pushing up the cost of living.

**Advantages of a sovereign money system:** In a sovereign money system, new money would be created by the central bank and then spent (or lent) into the real economy through government spending, tax cuts, direct payments to citizens or indirectly financing lending to businesses. Depending on how the money is used, this will have a much higher impact on output and employment than the money created by banks. This is primarily because a) much more of the newly created money will be spent directly on activities that contribute to GDP, whereas most bank lending is not, and b) the injection of new money and purchasing power does not come with the cost of servicing additional private debt, which could act as a drag on future spending. This means that a sovereign money system better supports the real economy.

### **More effective monetary policy**

**The Problem:** In the current monetary system, the central bank must use its influence over interest rates in an attempt to influence the lending behaviour of banks and the demand for loans from businesses and the public. Lower interest rates are supposed to encourage more borrowing (and so more money creation), and higher rates are supposed to discourage borrowing (so slowing down the rate of money creation). However, this is a blunt and ineffective tool. When money creation by banks produces house price rises in excess of 10% a year, a small change in interest rates will not significantly discourage mortgage

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<sup>11</sup> Further information on how the transition allows a significant reduction in private sector debt is covered in the *Sovereign Money Manual* (forthcoming).

borrowers, and so will not restrain money creation. In the opposite scenario, when private debt is at historically high levels and households and businesses want to reduce their debts, dropping interest rates to 0.5% will still not encourage indebted borrowers to borrow more, and so will not lead to more money creation and spending.

In addition, the use of interest rates has negative side effects across the wider economy. Those who borrowed responsibly at a certain interest rate can find themselves in financial difficulty when interest rates are raised particularly high in an attempt to dissuade new borrowers. Extremely low interest rates can cause serious complications for the management of pension funds and the savings income of pensioners.

**Advantages of a sovereign money system:** In a sovereign money system, the central bank has direct control over money creation, so there is no need to use interest rates to indirectly influence bank lending. Interest rates are therefore likely to be more stable over the medium term than under the current system, and are less likely to reach the extremes seen in recent years. Neither savers nor borrowers would have their disposable income arbitrarily increased or reduced as a result of the decisions of the central bank. The direct creation of money, to finance spending into the real economy, has a direct benefit on those who receive the money but no negative costs on the rest of society (unless excessive money creation distorts markets or starts to drive inflation). The direct creation of money is therefore a more targeted tool that should be more effective than the use of interest rates.

### ***Better government finances***

**The Problem:** When the central bank, or government, issues physical cash (banknotes or coins), the proceeds from creating that money (known as seigniorage) are added to the government budget. However, this only applies to the 3% of money that exists as physical cash. The remaining 97%, which exists as electronic bank deposits issued by the banks, generates no seigniorage for the government. In practice, the seigniorage from creating bank deposits goes to the banking sector, and acts as a hidden subsidy, whilst being a significant loss of potential revenue for the government.

In addition, the instability caused by credit bubbles is a significant factor in soaring levels of public (national) debt. The UK national debt has more than doubled since the start of the 2007-2009 financial crisis, predominantly due to the fall in tax receipts and the rise in unemployment benefits that followed the crisis. The costs of crises caused by money creation by banks are therefore passed back onto the taxpayer.

**Advantages of a sovereign money system:** Because all money – physical and electronic – would be issued by the central bank in a sovereign money system, it would be the state, rather than the banks, which benefits from the proceeds of creating electronic money<sup>12</sup>. In addition, the greater economic stability of a sovereign money system should reduce the risk of recessions leading to high deficits, leading to slower growth in the national debt.

## **2.2 Social & environmental benefits**

### ***Tackling unaffordable housing***

**Problem:** As mentioned earlier, around a third of the money created by banks is used to fund mortgage lending (and a further significant proportion goes towards commercial property). This creation of money to buy pre-existing assets (i.e. houses in limited supply,

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<sup>12</sup> It is of course important to ensure that money creation is well managed so that the benefits to the public from better government finances aren't negated by an effective inflation tax.

and the underlying land which is in fixed supply) leads to prices rising. When banks see house (and land) prices rising, they become even more confident about lending further amounts for mortgages (since the rising prices mean that they are unlikely to lose money even in the event of a default and repossession). This is a highly pro-cyclical process, making housing in many countries unaffordable for ordinary working people.

**Advantages of a sovereign money system:** There is a need for a wide range of policy and tax reforms to address the problem of unaffordable housing (particularly in the UK). However, removing the ability of banks to create money should remove much of the fuel for rapid house price inflation. If house prices are allowed to rise at a lower rate than growth in wages, housing will become more affordable over time.

### *Slowing the rise in inequality*

**Problem:** House price inflation has the effect of transferring wealth from the young to the old, and from those who cannot get on the property 'ladder' to those who can. This is a significant channel through which wealth inequality is further increased.

A second contribution to inequality comes from the interest payments made on existing debts. These interest payments make up a bank's income, and are redistributed as a) interest payments to depositors and savers; b) salary and bonus payments to staff; c) other payments to suppliers; d) dividend payments to shareholders and e) tax payments to the government. For the UK, household income data surveys suggest that it is only the highest-earning 10% who receive more income from banks (including interest earned, salaries and/or dividends) than they pay in interest to banks. This means that interest payments on the debt that banks create (in tandem with the creation of new money) have the effect of transferring income from the bottom 90% of the population to the top 10%.

**Advantages of a sovereign money system:** As discussed above, removing the ability of banks to create money should remove much of the fuel for rapid house price inflation, which in turn will reduce the rate of growth in wealth inequality.

The creation, by the central bank, of money that has no corresponding interest-bearing debt, means that there is a stock of money that is effectively 'debt free', and no need for members of the public to borrow simply to ensure that there is money available in the economy. The resulting lower levels of private debt will mean that less interest is paid overall, and therefore less income is transferred upwards to the top 10% of the population. Again, this should slow the rate of growth in inequality, with benefits for the economy as a whole.

### *Improving democracy*

**Problem:** When banks decide how quickly they want to grow their market share and/or overall assets, and what areas of the economy they want to invest in, they also effectively determine how quickly spending will grow and how newly created money will be spent. This control rests ultimately with those who set each bank's strategy i.e. the board of directors and senior leadership. Consequently, a very small number of people (around 80 board members across the 5 largest UK banks) make decisions that shape the entire UK economy, even though these individuals have no obligation or mandate to consider the needs of society or the economy as a whole, and are not accountable in any way to the public. This appears to be a significant concentration of power and a major democratic deficit.

In addition, because banks are currently the only source of new money into the economy, this puts government into a position of dependency on the banks. Any attempt to impose regulations or reforms to the banking system are met with the objection from the banks that this will limit their ability to provide credit and therefore harm the economy.

**Advantages of a sovereign money system:** Sovereign money restores democratic control over money creation, by placing the power to create money exclusively with the state. The Monetary Policy Committee, which would make decisions on *how much* money to create, should be designed to be highly transparent and accountable to parliament. However, essential separation of powers will mean that the decisions on how to *spend* the money created will be made by government (just as government currently makes decisions on how to spend all tax revenue).

In addition, because the central bank would be able to directly supply additional money to the economy via government spending, we would no longer be dependent on bank lending to fuel economic growth. This would significantly reduce the political power of the banking sector.

### ***Improving sustainability***

**Problem:** There is growing evidence that continual economic growth is environmentally unsustainable, given that it comes with increased usage of non-renewable resources and energy and increased production of pollution and waste. Despite this, governments around the world make growth their overriding economic objective. One of the reasons for this is the fact that the current monetary system has a tendency to create high levels of private and public sector debt, and governments often find that pursuing economic growth is the best way to make those high debt levels more manageable. In other words, the current monetary system creates the conditions in which continual economic growth – and the environmental damage associated with it – becomes a necessity.

**Advantages of a sovereign money system:** As discussed above, a sovereign money system would lead to significantly lower levels of private debt, as well as significantly reducing the growth in public debt. By removing the tendency towards high private and public debt, a sovereign money system would weaken one of the factors that drive governments to pursue unsustainable compounding economic growth.

# 3. CHANGES TO PAYMENTS AND LENDING IN A SOVEREIGN MONEY SYSTEM

## 3.1 Overview

The structure of banks in a sovereign money system would be designed to meet certain requirements:

- 1. The payments system should be protected from risks taken by the lending business.** Payments would be made through Transaction Accounts, which would be held as risk-free liabilities of the central bank, rather than liabilities of a commercial bank. Consequently, Transaction Account holders would not be exposed in any way to the risks taken by the bank's lending business. Payment services would continue to operate even with the failure of a lending business. This would create a clear distinction between a risk-free payments system (in which payments would be made using digital currency issued by the central bank), and the risk-bearing liabilities issued by banks.
- 2. Bank lending should not create additional money or purchasing power:** The separation of the payments system from lending would make it impossible for banks to create new bank deposits that could be used to make payments. The mechanisms of lending in a sovereign money system work to transfer existing sovereign money from a lender to a borrower, rather than creating new money and purchasing power when banks extend loans to borrowers. This would turn banks into true intermediaries (middlemen between savers and borrowers).
- 3. Investments should be explicitly risk-bearing.** Accounts that fund risk-bearing assets should not be guaranteed by government. Explicit guarantees and deposit insurance such as the UK's Financial Services Compensation Scheme (FSCS) or USA's Federal Deposit Insurance Corporation (FDIC) should be removed. The government should take steps to remove the public perception of any implicit guarantees. This is intended to address the moral hazard that comes from guaranteeing almost all bank liabilities regardless of the underlying risk taken by individual banks.
- 4. The risk of investments should be shared by banks *and* savers/investors.** If losses fell entirely on customers, banks would be sheltered from the consequences of taking excessive risk. But if losses fell entirely on the banks (up to the point of bankruptcy) then customers would have no economic interest in the level of risk taken by their bank, and so would chase the highest offered interest rate, without regards to risk. To avoid this, the regime should be designed to ensure that both the bank and the customers have 'skin in the game'.
- 5. Savers/investors should be able to choose the risks they are exposed to.** Those who want low-risk, low-return products should not face losses as a result of investments made on behalf of customers who wanted high-risk, high-return products. So the risk-bearing assets of the bank should be grouped together on separate balance sheets according to the (approximate) level of risk.
- 6. Failures should happen in 'small ways':** A conventional bank with a trillion-dollar balance sheet is equivalent to a large investment fund that invests in all asset classes

and does not disclose any significant detail on the assets it holds. Such a bank is considered solvent until it is suddenly revealed to be insolvent, at which point there is a shock and a significant ripple effect across the financial system. In contrast, credit institutions in a sovereign money system would be designed so that if they failed, they would ‘fail in small ways’, such that individual *Investment Funds* at individual banks would be frozen and liquidated in an orderly fashion, rather than entire banking entities failing overnight.

We first describe the **payments system and payment accounts** used, before describing the **intermediary and lending functions** of banks in a sovereign money system. In Chapter 5 we explain how the central bank would manage monetary policy in such a system, through its new tool of money creation.

## 3.2 Payments

Payments would be made between **Transaction Accounts** which would hold risk-free central bank money (“sovereign electronic money”). Funds in Transaction Accounts would be held in full at the central bank (recorded as liabilities of the central bank), but the payment services connected to these accounts would be administered by private sector **payment institutions**. By design, payment institutions would never expose customers’ funds to risk.

A bank could own a payment institution as a subsidiary, so conventional banks could continue to offer the functions of current/checking accounts to new and existing customers. However, the payment side of the bank would always be legally and financially insulated from the risks taken by the lending side of the bank.

### **Transaction Accounts**

Transaction Accounts would represent risk-free account balances of sovereign money held at the central bank. This sovereign money would be an electronic version of physical cash, i.e. a “central bank digital currency” and would be issued exclusively by the central bank.

**Transaction Account balances would be risk-free:** Transaction Account balances would be entirely risk-free, since they would represent balances held at the central bank. Sovereign money held in a Transaction Account would remain the legal property of the account holder, and would never be held on the balance sheet of the payment institution providing the account. Consequently, even if the payment institution itself were to become insolvent<sup>13</sup>, the account holder’s funds would still exist at the central bank and would not be at risk. The administration of the funds in these accounts could therefore easily be transferred to another bank or payment institution. Because customers’ funds would be stored at the central bank and not on the insolvent institution’s balance sheet, transferring these accounts to another payment institution would not drain liquidity from the insolvent bank or exacerbate its problems.

**Transaction Account funds could not be used to fund lending:** A bank or payment institution would never be permitted to use the funds in Transaction Accounts for making loans or funding its own investments. In effect, this would make Transaction Accounts risk-free,

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<sup>13</sup> The payment institution would be a business with income and expenditure. Income would include transaction fees or other revenue earned from providing payment services. Expenditure would include staff, technology, office space and market. Like any other business, were expenditure to be consistently greater than income, the business would eventually fail. But this failure of the operational side of the payment institution would have no impact on customers’ funds, which would be separately stored at the central bank.



electronic ‘safe deposit boxes’ for money. (Of course, a customer could transfer funds from their Transaction Account to the bank in order to save or invest, but the money would then be held by the bank, not in the customer’s Transaction Account.)

**No need for deposit insurance:** With the money in Transaction Accounts safe by virtue of being an account at the central bank (which is ultimately backed by the government), there would no longer be a need for a deposit insurance or government-backed guarantee scheme on payment accounts. Any amount of money could be held in a Transaction Account with zero risk of loss and no exposure to the financial health of the payment institution administering the account.

### ***Institutions providing Transaction Accounts***

Whilst central banks would provide the underlying technology and risk-free account balances that underpin a national payments system, few central banks would wish to provide customer service to millions of individual users. Instead, the customer service side would be handled by private sector companies, who would *administer* the funds held in Transaction Accounts on behalf of the customer. These firms would be of two types:

- “Licensed credit institutions”, (referred to simply as ‘banks’ from here on but also including building societies and certain other institutions), or
- Payment Institutions (as defined in the European Union’s Payment Services Directive 2009), including Electronic Money Issuers.

These firms would be responsible for all payment services connected to the account, and all customer service. In other words, they would handle everything from opening new accounts, validating the customer’s identify (‘Know Your Customer’), implementing anti-money laundering (AML) regulations, issuing debit cards, ensuring customers can withdraw cash through the ATM network, building internet or mobile banking application, staffing call centres, and marketing their services. They may also choose to provide overdrafts, which would draw on a pre-existing pool of sovereign money<sup>14</sup>. (To emphasise, the funds held in Transaction Accounts would still be held in full at the central bank, and not on the payment institution’s balance sheet.)

Both credit institutions (i.e. banks) and payment institutions would be subject to identical rules regarding the provision of payment accounts. For banks, the payment services would be run as a subsidiary in a way that is legally and financially separate from the bank’s lending business. However, from a customer perspective, banks would continue to provide both payment accounts and lending services under the same brand and through the same interfaces.

The customer would in a sense be hiring the bank or payment institution to act as a middleman, whose role would be to relay payment instructions and information between the customer and the central bank. The bank or payment institution would never actually take legal or practical possession of the money, and would not be allowed to instruct the central bank to transfer it to another account without the customer’s authorisation.

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<sup>14</sup> Overdrafts provided with Transaction Accounts would not allow the banks to create additional money. When a customer with an approved overdraft drew down the overdraft, they would actually be taking an ad-hoc loan from pre-existing sovereign money balances held by the bank. However, from the customer’s point of view, the experience of using their overdraft would appear to be no different from using an overdraft in the current system. (From a technical perspective, Transaction Accounts at the central bank could not have a negative balance, which would mean that an overdraft would need to be structured as a pre-authorised loan account managed by the payment institution, linked to the customer’s Transaction Account. The payment institution’s technology could sum the Transaction Account balance and the overdraft balance together to show the customer a single positive or negative balance, as occurs today.)

## Account fees

A bank or payment institution would not be permitted to lend or invest the sovereign money held in Transaction Accounts. This means the bank would be unable to earn a return on these funds. However, the payment institution would need to generate an income from providing Transaction Accounts in order to cover the cost of providing payment services. They would generate this income by charging fees for these accounts to cover their costs and make a profit. These fees would be on a per-account or per-transaction basis, and set by the payment institutions in a competitive market, rather than being set by the central bank or a regulator.

Our discussions with technologists from the payment industry suggest that the cost of running a UK current account currently stands at around £5 per month, so this may set the floor for average account fees. However, these costs are based on the existing complex, multi-tiered payment system in which there are multiple players involved in each transaction (who each take their small cut). The switch to a sovereign money system could be an opportunity to simplify this system and cut out some of these layers of complexity and cost, significantly reducing the cost of providing Transaction Accounts. In any case, competition in the market, especially from newly-emerging financial technology (fintech) companies, should help to keep account fees as low as possible.

## Central bank accounts available to Payment & Credit Institutions

Under the present-day system, commercial banks hold accounts at the central bank in which they keep 'central bank reserves' (explained in Chapter 1) for the purpose of settling payments with other banks and with the government. In a full sovereign money system, these would be replaced by two or more distinct accounts:

**The Operational Account (OA):** This would be an account (or multiple accounts) where the bank or payment institution would hold its own sovereign money. This would hold retained revenue, proceeds of capital raised from shareholders, and income generated from lending operations or providing payment services. This would also be the account from which wages, taxes, supplier payments and so on would be made. In short, it would be a bank or payment institution's 'own money' earned through the running of the bank. The money in this account would be owned by the bank and the account would be recorded as an asset of the bank, and a liability of the central bank.

**The Investable Funds Account (IFA)** (formerly "Investment Pool Account"): Institutions that also provide lending facilities (i.e. credit institutions) would also hold an Investable Funds Account, which would be recorded as an asset of the bank. This account would hold the payment flows that relate to the lending side of the bank's activities. Four transactions would be through this account:

- Funds from Investment Account holders would initially be transferred into this account (from the Investment Account holder's Transaction Account).
- Loans to borrowers would be transferred out of this account (to the Transaction Account of the borrower).
- Loan repayments and interest payments from borrowers would be transferred into this account (from the Transaction Account of the borrower).
- Repayments to Investment Account holders would be transferred out of this account. (to the Transaction Account of the Investment Account holder).

In addition, payments of any net interest earned from lending operations would be transferred from this account to the bank's Operational Account. The bank could also invest its own capital by making transfers from its Operational Account to its Investable Funds Account.

### **Central bank accounts for central government**

The Treasury would also hold an account at the central bank. This account, equivalent to a Transaction Account for the Treasury, would be known as the Central Government Account, and would replace the account that is usually called “Public Deposits”.

### **Only one type of electronic money**

Note that in the current system there are effectively two types of electronic money. The first, bank deposits, are liabilities of commercial banks, and are used to make payments between members of the public, and businesses. The second, ‘central bank reserves’, are used only by commercial banks to make payments to each other (or payments by banks to the government). These central bank reserves are held in reserve accounts at the central bank. Because individuals or non-banking businesses cannot get accounts at the central bank, members of the public and businesses are unable to use central bank reserves. This ‘dual circulation of money’ is an important feature of the current system.

In contrast, in a full sovereign money system there would be only one integrated quantity of money circulating among banks and non-banks alike. In effect, the public would be able to make its payments using central bank reserves directly, rather than having to use bank deposits.

### **Further information on Transaction Accounts**

Further information about the payments system in a sovereign money system is given in the *Sovereign Money Manual* (forthcoming). This gives further detail on:

- Capital that should be held by payment institutions.
- How profits from a payment institution could be distributed to parent companies.
- Compatibility with existing Deferred Net Settlement payment systems (vs. Real Time Gross Settlement systems).
- Whether or not blockchain, i.e. distributed ledger technology, should be used.
- How any privacy concerns could be addressed.

## **3.3 Lending**

The following structure would apply to banks and licensed credit institutions in a sovereign money system. However, conventional banks would also be in competition with a range of non-bank lenders. Neither banks nor non-bank lenders would have the capacity to create money through the act of lending.

### **Investment Funds**

A licensed credit institution (bank, building society or similar lending business) would allow customers to invest their savings through one or more of a number of Investment Funds:

- An Investment Fund would be structured around specific collections of assets of a broadly similar risk profile.
- Each Investment Fund would be a distinct legal and corporate entity, owned by the Group, with its own capital, balance sheet and profit-and-loss statement.
- The liabilities of each Investment Fund would consist of a range of **Investment Accounts**, which would be liabilities to the individual savers/investors who provide the funding for the Investment Fund’s assets. The vast majority of funding for the licensed credit institution’s lending would come from savers and investors in this way.

- **All Investment Account holders in a particular fund would face the same exposure to risk.** Were the fund to incur serious losses, these losses would be imposed equally across all Investment Account holders (as described below).
- However, individual Investment Accounts for a specific Fund would **vary** in the **interest rates** and **maturities** they would offer.

### ***Promise to repay at par***

Each Fund would promise to repay £1 for each £1 invested, plus any agreed interest, unless the fund as a whole were to fail. (We address fund failures below.) Consequently, the value of the account would not rise or fall with the value of the underlying assets. This would be in contrast to market investment funds, where investors buy shares in a portfolio of assets, and the value of those shares goes up or down in value depending on the value of the underlying assets. This means that the role of the financial institution would be to manage the equity in the fund so that changes in the value of the assets would be absorbed by the licensed credit institution rather than being passed on to customers.

### ***Investment Accounts***

When savers or investors invested via an Investment Fund, the financial institution would open an ‘Investment Account’ in their name. Like present-day savings accounts, Investment Accounts would still:

- Be used by customers who wish to earn interest on their savings
- Pay varying rates of interest
- Be provided by normal commercial (high-street) banks
- Be liabilities (specifically, a promise to repay money in the future) of the bank to the customer who made the investment
- Be fixed in price, promising to repay £1 for every £1 invested (except in the case of the fund becoming insolvent or illiquid)

**Investment Accounts would be illiquid:** At the point of investment, customers would lose access to their money for a pre-agreed period of time. Customers would agree to either a ‘maturity date’ or a ‘notice period’ that would apply to the account. There would no longer be any form of ‘instant access’ savings accounts. Regulators would set the minimum maturity that an Investment Account could have.

**Investment Accounts would not hold money:** An Investment Account would never actually hold any state-issued sovereign money. Any money used to fund an Investment Account by a customer would be immediately transferred from the customer’s Transaction Account (which represents sovereign money held at the central bank) to the commercial bank’s Investable Funds Account (also held at the central bank and discussed in more detail below). At this point, the money would belong to the , rather than the Investment Account holder, and the bank would record the new Investment Account as a liability to the customer (representing a promise to repay the money at some point in the future), and the addition to the Investable Funds Account as an increase in its assets. When the money invested is then lent to a borrower, it would be transferred from the commercial bank’s Investable Funds Account (sovereign money held at the central bank) to the borrower’s Transaction Account (also held at the central bank).

**Investment Account balances could not be used to make payments:** Investment Account balances would be liabilities of the commercial banks but would not be transferable to third parties, and therefore could not be used to make payments. Only Transaction Accounts would be linked to the national payments system. These restrictions would ensure that Investment Account balances could not be used as money substitutes, which could occur if customers were to be allowed to ‘pay’ someone by transferring Investment

Account balances to a third party. The UK's Financial Services Compensation Scheme (a form of deposit insurance which guarantees £75k of an individual's account), and the equivalent in other countries, would not apply to Investment Accounts.

**Investment Accounts would be risk-bearing:** The bank would be responsible for managing its capital in order to cover any losses on the underlying assets of an Investment Fund, so that losses do not fall on customers. However, in the event that losses exceed the capital put aside to cover them, then proportionate losses will be imposed on all Investment Account holders. How these losses are imposed is discussed below.

### ***Maturity dates vs. notice periods***

Customers would be offered a choice between maturity dates (e.g. "Fund matures on 31st December 2017") or notice periods ("90 days notice must be given before withdrawals"). From the perspective of the bank's liability management, it would make little difference which option a customer chose. Historical data would give a good guide to the percentage of funds that would be rolled over on maturity, and those which would be withdrawn.

### ***Maturity & size transformation***

For each Investment Fund, s would offer a range of investment accounts with varying maturities. Accounts with longer maturities would naturally offer higher rates of interest.

The bank would choose the maturities to offer, the proportion of liabilities at each offered maturity, and the interest rates to offer at each maturity, in accordance with their liability management principles and strategy. Consequently, Investments Funds could still perform maturity and size transformation, for example:

- **Size transformation:** A £250k mortgage could be financed by 25 Investment Accounts of £10,000 each.
- **Maturity transformation:** A 5-year loan of £2,000 could be funded by 5 individuals each placing £2000 into an Investment Account for 12 months at a time, in sequence.

(In practice, there would not be a clear connection between the sources of funding and the loans issued, unlike for example with Peer-to-Peer lending models.)

### ***Transparency of Investment Fund assets***

The Funds must be transparent to the customer with regards to the underlying investments (to the extent of types of asset, proportions of each asset type, and whether the underlying assets are held directly or in the form of packaged securities). The regulator would need to periodically audit at least a sample of funds to ensure that the actual assets were in line with what the bank publicly disclosed. Descriptions of the assets held in a Fund would be required to be in plain English.

### ***Labelling the level of risk of Investment Funds***

Investors would need to be aware of the broad category of risk that would apply to a particular Investment Fund (and therefore to individual Investment Accounts that make up the liabilities of the fund). Each fund would be required to be labelled with a disclosed risk level, according to the assets held by the fund.

How should the risk levels be set or judged? The crisis of 2007-2009 has shown that it is difficult to correctly assess levels of risk, but in broad terms, it is clear that an Investment Fund whose assets were mainly mortgages with 70% Loan-to-Value ratios would be a lower risk category than one which has unsecured small business loans, or one that finances proprietary trading or commodities derivatives. One imperfect but relatively simple way to label the risk would be to follow the Basel capital accords by calculating total Risk-Weighted Assets (RWA) for the fund, then having a plain English risk level equivalent to show to the public. So for example, a fund whose assets were entirely AAA

government bonds would have total RWA of zero, and would be “Very Low Risk”. A fund whose assets were entirely invested in below BB- corporate bonds would get the highest possible total RWA of  $150\% \times 8.5\% = 12.75\%$ , and would be labelled “Very High Risk”. Regulators could devise a scale that translates each level of RWA capital requirement (between the extremes of 0% and 12.75%) into a plain English equivalent.

Mervyn King argues that risk weights are impossible to calibrate and therefore largely useless (King, 2016). A more useful indicator of risk of bank failure is simply the ratio of equity to total assets. But as an indicator of the risk of a fund, this doesn’t say anything about the riskiness of underlying assets. Perhaps both pieces of information should be provided to customers: total leverage (total assets over total equity contributed by the credit institution) and a plain English translation of RWA.

### **Solvency & capital**

As the loans issued by an Investment Fund would be risk-bearing, it is to be expected that a portion of these loans would be repaid late or default (not be repaid at all). The bank would be required to hold capital aside to cover these expected losses, plus a margin for any unexpected losses. If actual losses were to exceed the capital put aside to cover those losses, then losses would have to be imposed on Investment Account holders.

### **Sharing losses**

The terms of the fund would be required to state, in plain English, how and when losses would be divided between the bank and the customer. For example:

“The will absorb losses up to 10% of the value of principal investments across the fund. Losses in excess of this will be imposed proportionately and equally across all Investment Account holders.”

This risk-sharing agreement would apply to *all* Investment Accounts of a particular fund, regardless of the maturity or interest rate applied to individual accounts.

In this example, the Fund could be established with £90m of funding from Investment Account holders, and £10m of funding from the Group (which becomes the Fund’s equity). The fund could then issue loans up to £100m. If defaults were less than £10m, then the fund’s equity (and by extension, the Group’s equity) would have been reduced, but no losses would be imposed on Investment Account holders. However, if defaults were £11m, £1m of losses would be imposed on Investment Account holders. As these losses would be required to be imposed equally across all holders (so that all holders faced the same level of risk), each account holder would see the value of their account reduced by 1.1% (£1m of losses / £90m of IA-contributed funds).

The imposition of losses on Investment Account holders would be **equivalent to a creditor bail-in**. However, whereas current creditor bail-ins are usually a surprise to the creditors, the terms of each Investment Account would be required to be fully transparent and presented before the account could be opened.

Banks would be likely to want to maintain par (i.e. paying out £1 for every £1 contributed) on Investment Accounts as much as possible, so they would typically offer to take losses first and impose losses on Investment Account holders only in worst case scenarios. And in many cases, a bank would choose to use retained profits generated from other parts of the group to replenish the capital of a fund, in order to avoid the reputational damage of imposing losses on Investment Account holders.

### **Minimum capital to be held against losses**

Each Investment Fund must maintain a minimum level of loss-absorbing equity capital at all times. The amount of capital required should be the *higher* of the following two cases:

1. The maximum amount of losses that the bank promises to absorb before imposing losses on customers. (In the example above, in which the bank takes losses of up to 10% of the principal investments, they would need to open the fund and inject capital sufficient to cover losses equivalent to 10% of Investment Accounts subscribed to that fund i.e. £10m).
2. The amount of capital that would be required under the current regulatory regime. For example, this may be:
  - the risk-weighted assets formula of the Basel capital accords, or
  - a higher minimum set by the regulators, or
  - a total leverage cap (equity to total assets) as proposed by Mervyn King<sup>15</sup>.

Imposing the first capital requirement means that the bank must make a trade-off. The greater the share of losses they promise to absorb, the lower the risk to the investors, and therefore the lower the rate of average interest the bank will need to pay on Investment Accounts. However, the bank is also first in line to take a greater share of losses.

No exemptions should be made to the first minimum capital requirement listed above, since banks would not be permitted to promise to absorb X% of losses unless they had already injected that amount of equity.

Capital could not be transferred horizontally between different Funds (since this would effectively reduce the return paid to one group of investors in order to minimise the loss imposed on other investors). However, profits from a Fund that had been paid to the Group level could then be used to recapitalise other funds (in other words, were the bank to have taken its cut of the returns of an Investment Fund, it could use that cut however it wanted to in the future).

Note that the funds that the bank had contributed to an Investment Fund as equity would not sit idly on the balance sheet; this money could also be lent out to borrowers. So an Investment Fund financed by £90m of Investment Accounts and £10m contributed by the parent Group would be able to make a full £100m of loans. (However, it does mean that, in the example above, if the fund accepted an additional £90 million of deposits, the Group would have to contribute an additional £10m to maintain the minimum capital requirement.)

### ***Falling below minimum capital requirements***

When losses reduce the equity of a fund, so that capital approaches the minimum level required by Basel or FCA/PRA regulations, this should be the trigger point for a discussion between the bank and the regulators, and the fund should be closed to new investors. Regulators would then set a level of equity at which the fund should be closed and liquidated, and any losses imposed firstly on the bank, and secondly across all Investment Account holders proportionate to their Investment.

### ***Advantages of this approach***

In the current banking system, significant losses on any one portion of a bank's assets can trigger the insolvency of the whole bank. On the liabilities side, customers who want low-risk low-return savings products are exposed to the same collective risk of bank failure as customers who want high-risk high-return products.

In contrast, the structure outlined above ensures that:

- Low-risk low-return assets would be funded by investors who wanted low-risk investments.

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<sup>15</sup> King, M. (2016).

- High-risk assets (with potentially higher returns) would be funded by investors who have indicated their willingness to accept a higher risk of loss.
- Significant losses would be contained within individual Investment Funds, rather than spilling over to bring down an entire banking group. In essence small parts of the bank could fail in isolation, without the whole failing.

The case of UK bank HBOS shows why this structure would be an advantage. Had HBOS been structured as described above, its losses on commercial property would have been absorbed first by HBOS itself, via the capital held by that specific fund. Further losses would then fall upon the Investment Account holders who subscribed to that fund (and who had benefitted from the returns earned when that fund was in profit). But HBOS's other funds, and its Transaction Accounts (current accounts), would have continued to operate without interruption. There would have been no need for a taxpayer-funded rescue of the bank.

### ***Further information on lending in a sovereign money system***

The *Sovereign Money Manual* (forthcoming) contains further information on liquidity management for investment funds. There is an extensive discussion of two potential ways to address liquidity issues or runs on investment funds: either (1) closing the fund and imposing losses on investors, or (2) providing liquidity support from the central bank (as suggested by Mervyn King). There are pros and cons of either approach.



# 4. THE MONETARY POLICY FRAMEWORK IN A SOVEREIGN MONEY SYSTEM

## 4.1 Overview<sup>16</sup>

The sovereign money approach is based on the view that:

1. Money creation can be conducted more effectively and appropriately by the state than by commercial banks (discussed in this chapter), and
2. The payment system would be safer if it were to be separated from the lending activity of banks (discussed in the previous chapter).

A sovereign money system would make two key changes to current arrangements. The first is that the central bank's primary instrument of monetary policy would cease to be the management of the policy ('base' or 'Bank') interest rate, and would instead become the direct creation of money. The second change is that commercial banks would lose their capacity to create 'money' in the form of demand deposits, becoming simple intermediaries between savers and borrowers. These two changes together would mean that private money creation would be eliminated and replaced exclusively by public money creation.

With banks no longer able to create money, the task of creating new money would fall to the central bank. Rather than relying on the policy rate of interest to influence the borrowing and saving of households and businesses (and the consequential money creation by banks), the central bank would instead use its own powers of money creation to directly influence spending in order to meet its monetary policy objectives.

The objective and target of monetary policy would be set by government, as it is today. The central bank would then calculate the change in aggregate demand it believed to be consistent with its target (as it does today when deciding on interest rate changes (Bank of England, 1999)). It would cooperate with the Treasury to identify the most suitable distribution method for newly created money, and then create the necessary new money, and grant it to the Treasury. The Treasury would then distribute this newly created money through one or more of the following channels:

1. **Citizen's Dividends** (equal grants paid to every citizen)
2. **Increased government spending**
3. **Reduced taxes** (through tax reductions or rebates, using the newly created money to compensate the government for the lower tax revenue)
4. **Indirectly financing lending to businesses** (via banks and non-bank lenders)

Consequently, in a sovereign money system, monetary policy would work by financing a new fiscal stimulus, boosting spending and aggregate demand. The role of the central

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<sup>16</sup> The overview given here was first published in Dyson et al. (2016) and appeared in the Cambridge Journal of Economics.

bank's decision making committee (e.g. the MPC in the UK or FOMC in the US) would no longer be to adjust the policy interest rate of interest but to adjust the rate of money creation so as to influence spending directly.

Importantly, so long as appropriate institutional arrangements were to be put in place, the spending financed by central bank money creation would be directed into the real economy, whereas currently, much of the spending financed by commercial bank money creation is directed into property and financial asset markets. Consequently, money creation by the central bank in a sovereign money system would have a greater impact on aggregate demand, economic activity and employment than an equivalent amount of money creation (as it is currently allocated between sectors) by commercial banks.

We now look at each of these aspects of a sovereign money system in more detail.

## 4.2 The objective, target and tools of monetary policy

In a sovereign money system, the government would still set the objective and target of monetary policy, and then give the central bank the authority to use certain monetary policy tools to achieve that target. In the UK, the current objective of monetary policy is “price stability”, which is defined as an average inflation rate of 2%<sup>17</sup>. However, a sovereign money system is also compatible with other objectives and targets, such as economic growth or an employment rate. It is therefore equally applicable in countries such as the USA where the central bank's objectives are wider, including “maximum employment, stable prices and moderate long-term interest rates”<sup>18</sup>.

The main tool of monetary policy in a sovereign money system is the **creation of money by the central bank**. The central bank would create money to finance new spending whenever it judges that a boost to aggregate demand is needed in order to meet its monetary policy target. This newly created money would be credited to the government's account at the central bank, and then distributed into the economy through one or more of the four potential channels listed above (and discussed in more detail below).

In both the current system and a sovereign money system, monetary policy ultimately works by influencing the level of money creation in order to have a secondary impact on spending. However, in the current system the central bank has limited influence over how much money is created and for what type of spending, often resulting in highly pro-cyclical levels of money creation and asset bubbles in property markets. In contrast, in a sovereign money system the central bank would have direct control over how much additional spending it wanted to finance through money creation (while the Treasury would have control over the allocation of that newly created money).

## 4.3 Role of the Monetary Policy Committee

Decisions over changes in monetary policy would be made by the existing decision makers at central banks: the Monetary Policy Committee in the UK; the Federal Open Markets Committee in the USA, the Governing Council of the European Central Bank and so on. For simplicity we will use the term Monetary Policy Committee (MPC) throughout this paper.

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<sup>17</sup> Specifically “Inflation of 2% as measured by the 12 month increase in the Consumer Prices Index”, as set in the letter from the Chancellor to the Governor of the Bank of England.

<sup>18</sup> [https://www.federalreserve.gov/faqs/money\\_12848.htm](https://www.federalreserve.gov/faqs/money_12848.htm)

In a sovereign money system, the MPC would be responsible for:

1. Collaborating with the Treasury or Finance Ministry to **identify the most appropriate distribution methods for newly created money** (discussed further below). The most appropriate choice would depend on the state of the economy at that point in time.
2. **Determining the appropriate amount of money to create, in order to generate the desired increase in aggregate demand.** This decision must take into account the current economic situation, the target, and the distribution methods chosen.

The MPC would need to communicate and collaborate with the Treasury. This may require more cooperation between monetary and fiscal policy than the current consensus around central bank independence would support. However, it would still be the central bank that determined the level of money creation, and the Treasury that determined how that money would be spent, ensuring a separation of powers between the two institutions. (There is an important discussion to be had about ways to improve the effectiveness, governance and transparency of these bodies, but that is outside the scope of this paper.)

### ***Discarding the base rate of interest***

Since the central bank would no longer manage monetary policy by providing reserves to banks at a particular interest rate, the Monetary Policy Committee (MPC) would no longer be responsible for setting that 'base' or 'policy' rate of interest. The central bank would no longer attempt to influence the interest rate at which banks lend to each other as a way of managing the level of credit and bank lending.

However, there would still be an interbank market. Banks that have more funds than borrowers could lend to banks that had more borrowers than funds. The average interest rate in this interbank market would provide a benchmark interest rate for any financial or loan contract which is currently benchmarked to the central bank policy rate. However, unlike the current interbank rate, this rate would be determined by the market rather than the central bank's policy rate, which would have ceased to exist.

## **4.4 Money creation & distribution**

Before the Monetary Policy Committee could decide how much money it would need to create in order to generate the desired increase in aggregate demand, it would have to liaise with the Treasury to learn the Treasury's preferred distribution methods for any newly created money. This would be important, as what the money would be spent on would determine the effect on demand. Collaborating in this way would allow the MPC to determine the likely overall effect of any specific amount of money creation on the economy as a whole.

Following a decision by the MPC, the central bank would create new money by crediting the Central Government Account. The newly created money would be 'backed' on the central bank's balance sheet by an equal amount of non-interest bearing perpetual bonds that had been issued by the Treasury specifically for this purpose<sup>19</sup>.

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<sup>19</sup> These special purpose bonds would not bear interest, and would have no maturity date. This means they create no ongoing expense for the Treasury, and should not be regarded as part of the public (government) debt. In effect, they represent a commitment on behalf of the Treasury to use taxation to withdraw money sovereign money from the economy, if necessary, at an unspecified time in the future (and potentially never). The accounting treatment of sovereign money is discussed in our paper *Accounting for Sovereign Money: Why state-issued money is not debt* (Dyson & Hodgson, 2016b).

The newly created money would then be distributed through one of the four channels mentioned earlier:

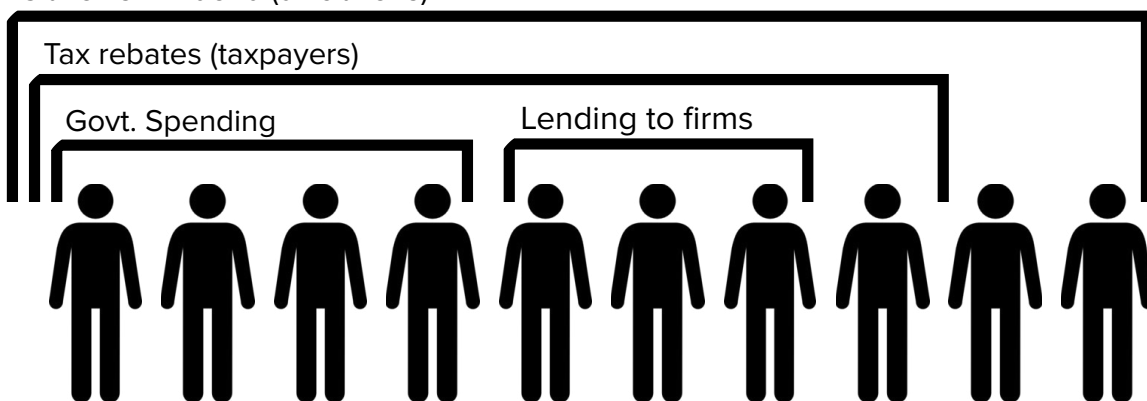
1. **Citizen's Dividends** (equal grants paid to every citizen)
2. **Increased government spending**
3. **Reduced taxes** (through tax reductions or rebates, using the newly created money to compensate the government for the lower tax revenue)
4. **Indirectly financing lending to businesses** (via banks and non-bank lenders)

Each of these distribution methods has a different “transmission mechanism” – the process by which the creation of new money impacts the economy as a whole. We look at each of these transmission mechanisms in detail below.

A key point is that each policy would have the first-round effect of **increasing the income** (and net wealth) of the citizens or businesses that received the newly created money. Different distribution options would distribute money to wider or narrower groups of people, as shown in the diagram below:

- A Citizen's Dividend would have the widest distribution, as it would be paid equally to all citizens.
- Depending on which tax were to be adjusted or rebated, tax reductions or rebates could be wide reaching, if they were to be designed to affect all taxpayers, or focussed on a smaller portion of citizens
- Increased government spending would have a narrower effect than a Citizen's Dividend and most tax reductions, as the newly created money would initially only reach employees of firms contracted by governments (or government employees).
- Lending to firms will initially only increase the incomes of employees of firms that borrow to invest (and other firms who sell to those firms) as a result of the additional lending, so the effect will be narrower than that of the distribution methods above.

Citizen's Dividend (all citizens)



Note however that a wider distribution of newly created money would not automatically result in greater impact on the economy. For instance, with citizen's dividends, each citizen could choose whether to spend the funds or to use them to save, invest or repay debts. Consequently, only a proportion of the newly created money would lead (immediately) to additional spending in the economy. In contrast, with government spending, although the distribution is narrower, it is easier to ensure that all of the money will add to aggregate demand in the first round.

We now look at each of these distribution mechanisms in more detail.

### ***Distribution method 1: citizen's dividends (direct grants to citizens)***

One direct way of distributing sovereign money would be via a one-off equal payment to all citizens, sometimes described as “helicopter money” or a “Citizen’s Dividend”. The process would be as follows:

1. The central bank would create a certain amount of money by crediting it to the Central Government Account.
2. The government would then divide the newly created money equally between the number of registered citizens and make an equal payment to each citizen’s Transaction Account.<sup>20</sup>
3. Each citizen would be free to use this additional money when and however they wanted<sup>21</sup>.

For example, imagine this future scenario: the Monetary Policy Committee concludes that a stimulus to aggregate demand of around £20bn over the next 12 months would be sufficient to reach the inflation target. Taking into account the average lags between people receiving a citizen’s dividend and spending it, and the spending multiplier effects when they do spend it, the MPC decides that it must create and distribute £12bn to citizens to have the desired effect. It therefore creates £12bn by crediting the Central Government Account. The government then uses this money to make an equal payment of £200 to each of 60 million citizens.

The transmission process of a citizen’s dividend would depend on what citizens do with the funds they receive. There are a range of possibilities. What is important is what is done on average across all citizens:

**Hoarding:** Some citizens may choose to permanently leave the money in their Transaction Accounts instead of using it in some other way. For example, some citizens would choose to hold a permanently larger balance in their Transaction Account, perhaps to reduce the chance of their going into an overdraft or having cashflow problems at the end of the month. Citizens who permanently hoard the additional money **reduce the impact** of citizen’s dividends upon spending, although this effect may be negligible. Again, the average effect across all citizens is what is important.

**Pay Tax:** If the payment were to be taxable, then a portion of these funds would be held back or paid directly to the government as tax. This then would constitute additional income for the government. The effect of this part of the funds would depend on how the government chose to use them - see “Increased Government Spending” or “Reduced Taxes” below for an assessment. (Depending on the tax regime used in the country in question, it may be administratively easier to make the grant non-taxable<sup>22</sup>.)

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<sup>20</sup> It is true that most governments would need to build the administrative infrastructure required to make payments to all citizens. The benefits of doing so in terms of more effective monetary policy would make it worthwhile building the infrastructure in advance of the policy being needed. However the logistical challenge of doing so may mean that other distribution methods are chosen over citizen’s dividends.

<sup>21</sup> Steve Keen has suggested that if there is a high level of household debt, households should be required to use this money first to repay debt.

<sup>22</sup> In the UK, where most people have their taxes deducted by their employer before they are paid, making the grant taxable would oblige millions of employees to submit an additional end-of-year tax return and make a separate tax payment to the tax authorities, at significant administrative expense for both the individual and the tax authorities. In contrast, in the USA where every citizen is required to file an annual

**Spending:** Most citizens would spend a portion of the grant. The impact of this additional spending on domestic aggregate demand would depend largely on how the money is spent and the import intensity of the domestic economy. Consequently, the impact would be split between:

**Additional Domestic Spending:** This would be additional spending within the national economy. If there was spare capacity in the economy, the additional spending would be expected to boost output and lead to growth in real GDP. However, if there was no spare capacity, or supply bottlenecks, the additional spending may increase inflationary pressure.

**Additional Imports:** To the extent that the country imports many of the goods and services that it consumes, some of the spending would boost imports. Alternatively, if the grant were to be seen by some citizens as an unexpected bonus and therefore spent on an unplanned foreign holiday, this would also increase effective imports (since money is spent on goods and services from other countries). This potential boost in imports would have **exchange rate impacts** (discussed below), although the degree of impact would depend on the size of the increase in imports.

The first-round spending by citizens would produce additional revenue for firms, and additional income for those firms' employees and suppliers, who would then have greater spending power themselves. This would start a second round of spending effects, leading to a **multiplier effect**.

**Make Additional Debt Repayments:** Some citizens would choose to use some or all of the grant to make overpayments (*additional* repayments on existing debts to lenders (whether banks or non-bank lenders). These debt repayments would initially reduce the impact of the grant on spending and aggregate demand. They would also reduce the overall **ratio of private sector debt to GDP**. However, banks (as well as non-bank lenders) would then have both lower leverage and additional loanable funds (which would tend to lower interest rates), so may choose to increase their lending, and citizens who would then have lower debts would have greater disposable income, because they would not need to spend so much income on debt repayment.

**Invest via banks:** Some citizens would choose to invest some or all of the grant via Investment Accounts. This would provide banks with greater loanable funds, which would tend to lower interest rates, and should increase their lending. The impact of this additional lending would depend on which sectors banks lend to and the delay between their receiving new funds and making loans (which they would aim to minimise for cost reasons).

**Invest via Financial Markets:** It is possible that some citizens would invest either by purchasing existing financial assets – potentially causing price inflation of those assets – or by purchasing newly issued financial assets – increasing the supply of credit to firms.

Further research needs to be done to assess what people would be likely to do were they to receive grants of newly created money. Some lessons could be learnt from looking at

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tax return, making the grant *non-taxable* would require adapting the tax return form and process to allow an exception, so it would probably be easier to make the grant taxable as though it were simply additional income.

the impacts of previous unexpected tax rebates, such as those implemented in Australia following the 2008 global financial crisis, or in the USA in 2001 and 2008<sup>23</sup>. However, there are some important considerations to consider when assessing these changes:

**The importance of looking at changed behaviour:** Note that in assessing the impacts of the grant, what is significant is how people change their existing plans. If a citizen receives a grant of £200, and immediately after, their automatic monthly mortgage payment of £200 leaves their account to pay the mortgage, this does not mean the grant has been used to repay debt, since they have not yet done anything that they were not already planning to do. What is important is what they do *differently* as a result of having an extra £200 – for example, making an additional overpayment of £200 on the mortgage that they were not already planning to make.

**The importance of average impacts:** Each individual would use the grant in different ways: some would spend it all, some would hoard it all, whilst others would use a portion to repay debt and a portion to spend (for example). What is important is the average effect across *all* citizens: what percentage of the total money created would be used for each purpose. So it does not matter if some citizens choose not to spend the additional money, so long as the overall average effect leads to an increase in spending.

**Initial time lag:** In the first place, there would be time lags between citizens receiving the grant and increasing their spending as a result of it. Some citizens would spend it immediately whilst others may hold it for a few months or more. This would create a delay or lag between the creation of money by the central bank and the impact upon aggregate demand. What is important for assessing the impact of the time lag is the *average* time lag. This may be measured by how long it takes for, say, 50% of the total newly created money to be used in some way by citizens.

### ***Distribution method 2: tax cuts and rebates***

A second method of distributing newly created money would be via a tax cut or rebate. As before, the central bank would create new money and transfer it to the Treasury's Central Government Account. With a tax *cut*, the Treasury would reduce specific taxes, using the newly created money to compensate for the lost tax revenue (therefore keeping total government revenue constant). With a tax *rebate*, the treasury would make payments to taxpayers on the basis of tax already paid. In both cases the level of government spending would remain unchanged.

We list this distribution mechanism second because in many ways it is like a Citizen's Dividend which is focussed on a particular subset of citizens through the tax system. The mechanics of the process would be as follows:

#### **For a tax cut:**

1. The central bank would create a certain amount of money by crediting it to the Central Government Account.
2. The Treasury would reduce specific taxes, aiming to reduce its tax revenue by (approximately) the same amount as the newly created money.
3. The Treasury would leave the level of government spending unchanged, in effect increasing the deficit, and using the newly created money to compensate for the lost tax revenue (with no increase in bond issuance).

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<sup>23</sup> See for example the commentary by John Muellbauer at: <http://voxeu.org/article/combating-eurozone-deflation-qe-people>

### For a tax rebate:

1. The central bank would create a certain amount of money by crediting it to the Central Government Account.
2. The tax authorities would calculate the rebate each person would receive. (This may be an equal amount for each taxpayer of a certain category of taxpayer, or an amount based on actual taxes and type of taxes paid by that citizen.)
3. The Treasury (or tax authority) would pay the rebate to each eligible taxpayer, transferring money from the Central Government Account to the taxpayers' Transaction Accounts.
4. The Treasury would leave the level of government spending unchanged, in effect increasing the deficit, and using the newly created money to compensate for the lost tax revenue (with no increase in bond issuance).

The speed of implementation would be crucial to the effectiveness of tax cuts or rebates as tools to distribute newly created money. 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."

Since a tax cut or rebate would leave more money in the accounts of its recipients, the transmission mechanism would be essentially the same as that for citizen's dividends, as described above. However, a number of factors would affect the impact:

- **The distribution of the tax cut (i.e. who receives the extra money?):** For example, a cut to sales tax would affect all citizens, whereas a cut to income tax would mainly affect current employees (who make up a smaller percentage of the population.)
- **The propensity to consume of those who receive the tax cut:** Citizens with high salaries or wealth tend to have lower propensity to consume out of additional income than citizens on lower incomes or with lower wealth. Consequently, a reduction in income tax, especially to the lower tax brackets, would be expected to give a greater stimulus to spending than a reduction in say, capital gains tax (which would tend to have greater impact on the wealthy).
- **Tax rebates vs tax cuts:** Since tax rebates would be paid as lump sums, this would be very noticeable by citizens and may lead to conscious and deliberate changes in behaviour (as per citizen's dividends). In contrast, a cut in say, sales taxes of a few percent may be mostly imperceptible on a daily basis, only showing up in the form of more money left in a citizen's account at the end of the month (and therefore more likely to be spent than to be actively saved or invested). However, the announcement of changes to certain tax rates, such as income taxes, could lead to conscious changes in behaviour. The potential differences in people's reactions to tax cuts or rebates could be useful, in that tax rebates could be useful in a recession as a prominent stimulus, whilst subtle tax cuts could be used in normal times to inject money into the economy at a steady rate.

**No impact on the bond market:** Note that there would be no change to the level of government spending, and the tax cut would not be financed by the issuance of government bonds, so this policy does not have a direct impact on the bond market.



### ***Distribution method 3: increased government spending***

By using the newly created money to increase government spending, the government could increase the provision or quality of public services such as education, healthcare or transport infrastructure, without increasing the tax burden on the public. The mechanics of the process are as follows:

1. The central bank would create a certain amount of money by crediting it to the Central Government Account.
2. The government would spend money on *additional* spending projects, increasing total government spending above what was initially planned.

Initially, additional government spending would boost the revenue of firms that supply the government, and create additional income and additional employment for employees of those firms. Those recipients could choose how to spend this money as they wished. The second order effects of this additional spending would be equivalent to the first order effects of citizen's dividends (see above).

The *Sovereign Money Manual* (forthcoming) discusses some of the characteristics that any government spending projects must have to be suitable for financing through sovereign money.

### ***Distribution method 4: indirect financing of business lending***

In normal times in a sovereign money system, bank lending would be funded entirely through the savings provided by Investment Account holders, and this would normally be sufficient to meet the demand for credit for businesses, consumer finance and a non-inflationary level of mortgage lending.

However, the Monetary Policy Committee would also have a responsibility to ensure that businesses in the real (non-financial) economy have adequate access to credit. It would need to monitor the economy both through quantitative and qualitative methods (such as the Bank of England's Credit Conditions Survey). If, based on this analysis, the central bank concluded that banks were unable to meet demand for loans from creditworthy borrowers and businesses and that this was negatively affecting the economy, then the central bank could make up the shortfall by creating new money and lending it to commercial banks (as well as to non-bank lenders), to be on-lent exclusively to non-financial businesses. Banks and non-bank lenders would not be permitted to use this money for speculation, or to lend it for consumer finance or mortgages.

This ability to make funds available for lending to businesses should not be used as a tool to micro-manage the economy; it should only be used to ensure that the economy does not suffer due to a shortage of credit for businesses. The central bank would not lend directly to the private sector, and commercial banks (as well as non-bank lenders) would still be responsible for deciding which businesses they lend to.

Any loans that the central bank made to banks specifically for the purposes of on-lending to businesses would be funded by the creation of new money by the central bank, and the money would be destroyed on repayment of the loan to the central bank. The payments of the interest on these loans would be credited to the Central Government Account to ensure that these interest payments – which withdraw money from the real economy – are re-circulated back into the economy through government expenditure.

The allocation of loans through the lending facility may occur in any number of ways. Perhaps the most 'market orientated' of these would be to use an auction mechanism. This would ensure that the interest rate paid on these loans from the central bank would be set by what banks were willing to pay, which in turn would be determined by the demand

for loans from businesses in the wider economy. Alternatively, if the central bank wanted to lower the cost of credit to firms, it could set its own lower rate of interest and provide whatever quantity of money banks and non-bank lenders demanded from banks at that rate.

### ***Using multiple channels of distribution***

Distributing newly created sovereign money through a combination of the methods above would help to avoid the capacity issues or bottlenecks that could occur if all new money were to be routed through one particular channel. By ensuring that sovereign money goes into sectors with spare capacity, the additional spending would have a greater effect on output without creating inflationary pressure. The Treasury would be responsible for deciding in advance how money would be split between these uses (so that the central bank would not end up determining fiscal policy).

# 5. TRANSITION

There are two broad choices for the transition to a sovereign money system: either a gradual approach, or an immediate switch. In the gradual approach, the central bank would start to use direct money creation as a monetary policy tool, as described in chapter 4, but this money would exist alongside (and be interchangeable with) bank deposits. In the immediate transition approach, the entire stock of bank demand deposits (and some short-term time deposits) would be converted into central bank money overnight. Managed well, it should be possible to implement either approach without significant disruption to the banking system or the wider economy.

## 5.1 Gradual transition

In the first, gradual approach, the central bank would start to use direct money creation as a monetary policy tool to increase aggregate demand. It would transfer this newly created money to the government for spending into the economy or making grants to citizens, as described in Chapter 5. However, banks would still be permitted to operate as they currently do, creating money in the process of making loans.

There are two possible ways of implementing this gradual transition. In the first, money, as used by the public, would continue to consist of demand deposits that would need to be guaranteed via deposit insurance. When the central bank created new money, it would do so by creating new central bank reserves, which would be matched by the simultaneous creation of new bank deposits (which are held by the bank customer). This process is similar to that of Quantitative Easing, except that the newly created deposits would be received by a wide range of households and firms rather than financial market investors.

In the second approach, the central bank would allow members of the public and non-financial firms to hold electronic central bank money, or “Central Bank Digital Currency” (CBDC). The possibility of allowing non-banks to hold electronic central bank money is discussed in detail in our paper *Digital Cash: Why Central Banks Should Start Issuing Electronic Money*. It is also the focus of a significant research project at the Bank of England (Barrdear & Kumhof, 2016), which also considers the use of blockchain, i.e. distributed ledger, technology.

In this *digital cash* approach, the central bank would use direct money creation as described above, but citizens would be able to choose between holding the money they receive in the form of bank deposits or central bank digital cash. Initially, digital cash and bank deposits would be interchangeable, but as the transition progressed, measures could be taken to make it less attractive to change from digital cash back to bank deposits. This could have the effect of forcing banks to convert their short-term demand deposit funding into longer-term time deposit funding, shifting to a safer business model and in effect approaching the true intermediary model of a bank in a full sovereign money system.

Over time, regulations such as capital and liquidity requirements and lending criteria (e.g. maximum loan-to-value ratios for mortgages) could be tightened to restrict how much money banks could create, with the central bank taking an increasingly larger role in money creation. Whilst this hybrid arrangement was in place, this would constitute a **partial sovereign money system**. Eventually, a conversion date would be agreed at which banks would be required to switch over to a full sovereign money system (via the process outlined below), and banks would therefore lose their ability to create money.

This partial sovereign money system is likely to be more politically feasible as a stepping stone towards a full sovereign money system, as it does not require immediate changes to the way that banks work and provides a way for the reforms to be phased in over time. If the current policy debates around ideas such as ‘helicopter money’ (direct payments of newly created money from the central bank to citizens) or ‘Quantitative Easing for People’ lead to central banks implementing these measures, this will also be a move to a partial sovereign money system, even if it not explicitly recognised as such.

The following list shows which advantages would still be gained by introducing a partial sovereign money system, and which benefits could only be gained by making the switch to a full sovereign money system.

### ***Advantages of a partial sovereign money system in a recession***

- If used to increase government spending, reduce taxes or provide a Citizen’s Dividend, the creation of sovereign money by the central bank would be likely to stimulate GDP more effectively than Quantitative Easing. It would also be likely to be more effective than reducing interest rates, which relies on the existence of borrowers who are willing to invest or spend on GDP related transactions.
- By providing a source of money that doesn’t have to be borrowed into the economy (and therefore doesn’t increase private debt), sovereign money creation could make it possible to maintain aggregate demand whilst the public simultaneously deleverages (i.e. pays down debts). This would make a debt-deflation scenario less likely.
- Sovereign money could be created counter-cyclically to balance out the swings in money creation by banks.

### ***Advantages of a partial sovereign money system in a growing economy***

- The creation of sovereign money would provide an alternative to bank-issued money, and would therefore allow aggregate demand to grow without requiring a corresponding rise in private (household and corporate) debt. (Rising private debt is problematic because it increases the likelihood of financial crisis.)
- Sovereign money could be directed into areas of the economy that directly contribute to GDP and employment, whereas a majority of bank-issued money is directed into property or asset markets.

### ***Advantages in general***

- A partial sovereign money system would still run on the dual money system of central bank reserves and bank deposits. Consequently, the creation of sovereign money in a hybrid system would lead to an increase in the central bank reserves held by commercial banks, increasing the liquidity of the banking system as a whole. (This could however cause problems if it became excessive and excess liquidity within banks led them to start a dangerous ‘search for yield’ and risky investments.)
- The lobbying power of banks would be reduced: with an alternative source of money creation, banks would be less able to argue against regulation on the basis that it would harm their ability to provide credit and therefore harm the economy.

### ***Disadvantages of not switching to a full sovereign money system***

- If most money continues to exist as bank deposits, deposit insurance on bank deposits would still be necessary. Consequently, risk and reward are not aligned and risk-taking will still be excessive. The taxpayer and government would still be ‘on the hook’ for bank failures.
- Because most money would still exist as bank deposits, banks would continue to receive the effective seigniorage on creating this money and would therefore still be subsidised (giving them an unfair advantage over the rest of the financial sector).

- The payments system would still run on bank deposits backed by risky assets, and would therefore not be protected against the failure of banks. Consequently, many banks would still be ‘too big to fail’.
- It would still be necessary to try to control money creation by banks through the use of base rates and regulation, even though these tools have been mostly ineffective to date.
- A partial sovereign money system would not prevent money creation by banks being used to finance speculative bubbles in property or financial markets.
- Ultimately, a switch to a partial sovereign money system would deliver only some of the benefits, but would leave some very large problems in place. Switching to a *full* sovereign money system would deliver all the benefits listed above, and would also address a much wider range of problems, and would therefore have much greater advantages.

### **Further information on the gradual transition**

*Sovereign Money: Paving the way to a sustainable economy* (Jackson, 2013) describes how the central bank could start using direct money creation as a monetary policy tool whilst banks would still be able to create money in the form of demand deposits. The paper addresses some of the issues that may arise if sovereign money were to co-exist alongside bank deposits.

*Digital Cash: Why Central Banks should start issuing electronic money* (Dyson & Hodgson, 2016) analyses the rationale for central banks to provide the public with an electronic equivalent to physical cash. The paper describes the benefits, risks and implementation options for such a digital currency. The introduction of digital cash by a central bank could be one transition route towards a full sovereign money system. The much more complex paper by Bank of England researchers Barrdear and Kumhof (2016) is well worth reading, too.

*Recovery in the Eurozone: Using money creation to stimulate the real economy* (van Lerven, 2016a) outlines a proposal for the European Central Bank to use direct money creation to boost aggregate demand and stimulate a recovery in the Eurozone, without making changes to the ability of banks to create money.

*A Guide to Public Money Creation* (van Lerven, 2016b) compares a range of proposals for the use of a central bank’s ability to create money to finance an economic stimulus.

## **5.2 Rapid transition**

Switching immediately from the current system to a **full sovereign money system** would involve transferring the power to create money from banks to the central bank overnight. This could be done without changing the size of bank, firm or household balance sheets or net wealth, without affecting the level of money in the wider economy and without causing a damaging contraction in the amount of credit available.

There are three key elements of the overnight transition to a full sovereign money system

- The demand deposits of banks would be converted into state-issued sovereign money.
- Bank customers’ current/checking accounts would be converted into Transaction Accounts.
- Bank customers’ savings and time deposit accounts would be converted into Investment Accounts.

In the overnight switchover, all bank-issued demand deposits would be converted into state-issued sovereign electronic money (i.e. central bank digital currency) held (indirectly) in accounts at the central bank. Instead of having a liability to their customers, each bank would then have an equivalent liability to the central bank (and therefore there would be no overall impact on the size or nature of any commercial bank's balance sheet).

The economy would be operating on a sovereign money system immediately following the switchover. However, it would take a longer period of transition for the economy as a whole to deleverage and unwind the large debts that have been created by the current monetary system over a considerable period of time.

Stylised balance sheets for the central bank, the commercial banking sector and the household sector prior to the reforms are shown in the Appendix in Figure 1. Figure 2 shows the same balance sheets one day after the reform, whereas Figure 3 shows the balance sheets 30 years after the reform. These balance sheets can be found at the end of the paper.

### ***Converting demand deposits into sovereign money overnight***

Demand deposits would be converted into sovereign money overnight by the following process:

1. At the point of the switchover, the payment system would be temporarily frozen and every bank would inform the central bank of its total demand/sight deposit liabilities and individual demand deposit accounts.
2. For each individual demand deposit account, the central bank would create a corresponding Transaction Account with the same balance, following the process described below.
3. The central bank would enter into a legal agreement to take on the bank's existing liability to those of its customers who held demand deposits, so that those customers became the holders of sovereign money in Transaction Accounts instead of demand deposits.
4. Each bank would then acquire a liability to the central bank exactly equal to the amount of demand deposit liabilities it had prior to the conversion. This 'Conversion Liability' is discussed below.

In effect, the central bank would have 'extinguished' the banks' demand liabilities to their customers by creating new state-issued sovereign money and transferring ownership of that sovereign money to the relevant customers.

If at the time of the transition, central banks had already introduced 'digital cash' – an electronic equivalent to cash – in parallel to bank deposits, then the process above would simply be applied to all remaining bank deposit accounts, in effect converting them into Digital Cash Accounts (which are equivalent to Transaction Accounts.)

### ***Converting bank accounts at the central bank into sovereign money***

Banks, the government, foreign central banks, and certain other financial institutions all hold accounts at the central bank. These accounts would be 'converted' into sovereign money accounts (although in practice this is simply a re-labelling of accounts that already exist at the central bank).

- The Treasury’s or Finance Ministry’s account at the central bank, which may be labelled “Public deposits at central bank” or “Consolidated fund”, would be re-labelled the Central Government Account. These accounts would be liabilities of the central bank and assets of the government.
- Banks’ reserve or settlement accounts – their deposits at the central bank – would be re-labelled as Operational Accounts. The account balances would remain exactly the same. These accounts would be liabilities of the central bank (and would remain assets of the bank).
- Any other accounts held at the central bank, such as those held by key financial institutions or foreign central banks, would be converted into Transaction Accounts for those institutions.

### ***Creation of Investable Funds Accounts for each bank***

A new, Investable Funds Account would be created for each bank or lending institution with an initial balance of zero. (Any deposits that the bank already held at the central bank would then appear in that bank’s Operational Account, as described above.)

### ***Converting savings accounts & time deposits into Investment Accounts***

Simultaneously to the process above, each bank would convert its fixed-term and fixed-notice savings accounts into Investment Accounts. These Investment Accounts would still be recorded on the balance sheet of each bank as liabilities of the bank to the customer.

Customers of banks would then have either:

- a balance in their Transaction Account, representing central bank digital cash, which could be used to make payments on demand, and/or
- a claim on a bank, via their Investment Account, which has a maturity date or notice period and which would still be a liability of the bank, to be repaid to the customer in the future.

Each bank would no longer have any demand deposits at all, and the only accounts held on its balance sheet would be Investment Accounts, with fixed term and/or fixed notice periods, or other medium- or long-term risk-bearing liabilities.

### ***The Conversion Liability***

If removing the demand liabilities from bank balance sheets were the end of the process, then the UK banking sector in aggregate would lose a significant liability (for many banks, more than half of all their liabilities) without losing any corresponding assets, which would increase their collective net worth and equity, generating a windfall profit for the shareholders. To negate this effect, the old demand liability to the bank’s customers would be replaced with a new liability, called the Conversion Liability, owed to the central bank. This would leave the net worth and size of banks’ balance sheets completely unchanged. The assets side would also be unchanged.

The Conversion Liability owed by each commercial bank to the central bank would in effect be a charge, at face value, for the money created by the central bank to extinguish the bank’s demand liabilities to its customers. Links to further detail on repayment of the Conversion Liability are given below.

## 5.3 Credit and lending during the transition

Immediately following the switchover, the Investable Funds Accounts of banks would have balances of zero, which implies that banks would be unable to lend until they had first transferred or acquired funds from elsewhere. There are a number of sources for this funding:

### 1. From the banks' existing reserves (held in their Operational Accounts)

As described above, during the overnight switchover the reserve and settlement accounts at the central bank would be converted into Operational Accounts, which would hold state-issued central bank money. However, in the current system, balances in central bank reserve accounts can only be transferred to those who also hold accounts at the central bank, and since the public cannot currently hold accounts at the central bank, reserves cannot be "lent out" to the public. In contrast, after the switchover, the sovereign money which replaces these reserves could be transferred to the Transaction Accounts held by members of the public. In other words, banks would then be able to 'lend out their reserves'. This means that their holdings of central bank money would have become a source of loanable funds.

For the UK, on the morning after the switchover, there would be £337 billion of state-issued currency in the banks' Operational Accounts (on Oct 2016 figures<sup>24</sup>). Most of this money was created as a result of Quantitative Easing, and this sum would be far beyond what the banks would need for actual operating funds (i.e. to cover staff, salaries, rent and other operating costs). Consequently, banks would probably wish to use a significant proportion of these funds to fund their own lending.

### 2. From loan repayments from existing borrowers

The transition would not affect any of the bank's existing loans or other agreements. Consequently, on the days and weeks after the switchover (and indeed on any particular day at any point in time), a number of borrowers would be due to make repayments on their loans. Most if not all of this money could be re-lent to new borrowers (or to re-finance existing loans). Bank of England statistics for the 12 months to September 2016 show that bank loan repayments from households and non-financial corporations are currently averaging around £46 billion a month on total outstanding loans of around £1.6 trillion representing a repayment rate of 2.8% per month. There is a further £550 billion on loan to other financial corporations, which if repaid over six months on average<sup>25</sup> we estimate would produce another £90 billion of loan repayments each month. Banks currently also earn around £162 million<sup>26</sup> per day in interest payments (at current low interest rates), and part of this could be used to finance new, additional loans.

### 3. From new Investment Accounts opened by customers

On any particular day, there will be a number of customers who wish to save or invest in order to earn interest. Upon opening Investment Accounts, they would transfer funds from their Transaction Accounts to the Investable Funds Account of the bank, providing

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<sup>24</sup> Bank of England data series, LPMBL22, as of 31st October 2017.

<sup>25</sup> The BoE does not provide figures that enable this rate to be calculated, but the UK National Accounts show that while around 50% of loans to non-financial corporations have a maturity of less than 12 months, for financial corporations the figure is 90%. If the finance sector loan repayment rate is taken as a conservative 10% a month this would mean that there would be in total over £90 billion a month of repayments. These repayments can be used by the bank to finance new lending (or refinance existing lending).

<sup>26</sup> Source: BoE data series GFQB5SL - Quarterly net sterling interest from residents and non-residents.



funding for additional lending. (Of course, this source of funding may be partially or wholly cancelled out by repayments from the bank to earlier Investment Account holders.)

These three sources of funding alone suggest that banks should have little shortage of funds to lend immediately after the reform had been implemented. However, to be certain that no shortage of credit could arise, the central bank could also provide a temporary lending facility to the banks:

#### **4. Borrowing from a Transitional Lending Facility provided by the central bank**

In the months following the switchover, the central bank may wish to provide an on-demand lending facility to banks, so that they could borrow as and when they needed to, whilst adapting to operating in a system where they must borrow funds *before* they can issue loans. The money that banks borrowed from this facility would be created by the central bank at the moment at which the bank borrows.

This purpose of this Transitional Lending Facility (TLF) would be to assist banks in managing their own liquidity during the early phase of the transition, rather than to finance lending to the real economy. (The Monetary Policy Committee would still have the separate ability to decide to lend to banks to fund their lending to the real economy.)

Over a period of a few months, the temporary lending facility would be phased out and eventually closed altogether, as it is only intended as a tool to ease the transition.

#### ***Risk of excessive lending immediately after the switchover***

The risk immediately after the reform may not be that there would be a *shortage* of lendable funds, but that there would be a glut of funds due to the large balances in Operational Accounts (as it suddenly becomes possible to lend out the funds that were created via Quantitative Easing). Since these funds would not be earning interest, there would be an incentive for banks to lend these former reserves as soon as possible in order to swap them for interest-bearing assets (in particular, loans). If all banks were to do this, it could potentially create a dangerous increase in the level of lending and credit.

Such a risk could be addressed in one of two ways:

1. In the year prior to the overnight switchover, the central bank may wish to take steps to reverse Quantitative Easing, by selling bonds back to the financial markets, in exchange for central bank reserves. This would reduce the quantity of reserves held by banks, and consequently reduce the amount of sovereign money that banks would be holding immediately after the transition.
2. Immediately after the switchover to a sovereign money system, banks could be given the option (or possibly obligation) to immediately use a portion of their funds in their Operational Account to repay part of the Conversion Liability. This would shrink the balance sheets of both the bank and the central bank, since part of the central bank's liability to the bank (the bank's Operational Account) would be cancelled against the bank's liability to the central bank (the Conversion Liability).

## **5.4 Further information on the transition process**

The *Sovereign Money Manual* (forthcoming) provides further detail on the longer-term transition, covering: how the Conversion Liability would be repaid; how the Conversion Liability would generate seigniorage for the state; and how the repayment of the Conversion Liability would allow the private sector to significantly reduce its overall debts.

## 6. RESPONSES TO COMMON CRITIQUES

Five themes are common amongst the various critiques of the sovereign money approach:

- 1. Supply of Credit:** *“There would be too little credit...leading to deflation and recession.”*
- 2. Interest rates:** *“Interest rates would be too high and too volatile.”*
- 3. Near monies:** *“It is futile to try to control private money creation because near monies will immediately emerge from other parts of the financial system.”*
- 4. Shadow banking:** *“It was the shadow banking sector that caused the last financial crisis. By looking at commercial banks, sovereign money reforms focus on the wrong part of the financial system.”*
- 5. Monetarism:** *“This is just modern monetarism, and will be as harmful as the failed monetarist experiments of the 1980s.”*

Positive Money is currently undertaking further research on each of these areas, but we have addressed each of these arguments briefly below. (The following sections on the Supply of Credit, Near Monies and Shadow Banking are adapted from Dyson et al. (2016) which first appeared in the Cambridge Journal of Economics.)

### 6.1 Impact on the supply of credit

Critics have argued that a sovereign money system has an “inherent deflationary bias which is likely to produce instability in the financial system” (Fontana & Sawyer, 2016). They argue that this is because withdrawing the private banking sector’s ability to create new money will lead to (1) a shortage of credit to the real economy, and/or (2) an inflexible monetary system.

The first argument is based on the idea that existing savings would be insufficient to meet demand for lending to the non-financial sector (households and businesses). Unable to secure the credit needed to invest and expand, firms would be incapable of creating new jobs and driving economic activity, and “we would run our economy into the ground” (Nerisyan and Wray, 2016).

These criticisms are addressed in detail by Positive Money’s paper *Would there be enough credit in a sovereign money system?* (van Lerven 2015). We summarise the main points below.

First, the statement seems to assume that the amount of money in the economy would be fixed. This is not the case. As we have written, “A fixed money supply would cause severe economic problems and limit economic growth” (Dyson et al., 2015). For this reason, the central bank would always be able to create more money and inject it into the economy if it wished to boost aggregate demand, or if a shortage of money (or credit) was preventing it from reaching its monetary policy target. As long as the central bank has an inflation/employment target then it would always increase money creation (and therefore spending)

whenever inflation/employment was below target. Deflation due to insufficient aggregate demand would always be simple to address. There is therefore no “inherent deflationary bias” (Fontana & Sawyer, 2016).

Likewise, if there ever were to be a shortage of credit to the real economy, the central bank would always have the option of making funds available to banks (and non-bank lenders) to finance lending to businesses, as discussed in Chapter 5.

Interestingly, Nersisyan and Wray (2016) concede that deflation is avoidable in a sovereign money system: “To prevent that [deflationary bias], we could grow government (‘thin air money creation’) to fill the demand gap”. However, they go on to suggest that a sovereign money system would still be less flexible than the current one because “Private creation of money is more elastic in the sense that it is better able to respond to the needs of the economy”.

The assumption here is that the central bank cannot respond to the needs of the economy as flexibly as commercial banks do. However, in our paper *Would a sovereign money system be flexible enough?* (Dyson et al., 2015), we demonstrate that the flexibility and responsiveness of a sovereign money system depends not on which entity creates money, but on the criteria that trigger the creation of new money, and how that new money finds its way into the economy. The policy space in a sovereign money system allows varying degrees of flexibility.

For example, at the extreme of a spectrum of flexibility, the central bank could provide loans of newly created money, at a rate of interest of its choosing, on demand to any bank or non-bank lender that has a willing borrower. Such a system would be very similar, at least in terms of its economic effects, to the one we have today. The central bank would set the policy rate and would lend money at this rate. Money would therefore be created endogenously in response to the demand for credit. Other policy regimes of varying levels of flexibility are possible. We suggest that the optimal system is probably one in which lending to businesses can be accommodated with the creation of new money by the central bank if private sector lenders were ever to be unable to meet the demand for business lending, but all other lending would be funded out of existing savings of sovereign money.

However, even in a less flexible system there should still be a sufficient supply of credit. In a sovereign money system, a major source of funding for new loans would be repayments on existing loans. Money would not be destroyed when bank loans are repaid. Instead, loan repayments would transfer sovereign money from the borrower to the bank, and this money could then be ‘recycled’ to finance the demand for new loans. This recycling would be sufficient to maintain the stock of loans at its current level, while the injection of new money by the central bank would allow households and businesses to increase their savings so that the stock of loans could increase in line with the growth of economic activity.

In our paper *Would there be enough credit in a sovereign money system?*, we analyse empirical data and find that for the UK at least, a sovereign money system should be able to provide sufficient credit to fund all business and consumer lending, and a non-inflationary level of mortgage lending, but not the level of excessive credit that created the rapid house price inflation in the years before and since the financial crisis (van Lerven et. al., 2015).

## 6.2 Impact on interest rates

A common criticism levelled against sovereign money is that interest rates would either be too high or too volatile. These arguments are rarely elaborated, but we can pick apart some of the underlying assumptions by asking what conditions would be necessary for interest rates to be high or volatile in a sovereign money system.

Firstly, for interest rates to be excessively high would imply that, in a world where banks could not finance loans by creating new money, there would be a shortage of money available for lending ('loanable funds'). We partly addressed this in the preceding section: banks under a sovereign money system would still be able to provide sufficient credit for businesses, consumer lending, and a non-inflationary level of mortgage lending. In addition to this, the economic context at the moment is one of large pools of capital and a 'search for yield', implying that rather than there being a shortage of credit, there is a shortage of useful projects to invest in. There is no reason why the funding from these capital pools (which could be channelled through banks or other financial institutions to the end borrowers) could not meet much of the demand for credit, and therefore it is hard to justify the claim that interest rates would be high due to some hypothetical shortage of credit.

Secondly, there is also a global trend of long-term falling interest rates, which started decades before the financial crisis of 2007-2009 (Haldane, 2015). This has reached the extent that many real (i.e. after-inflation) interest rates today are actually negative. If a switch to a sovereign money system did reduce the supply of credit, this may allow interest rates to rise to a more normal level, addressing significant problems for pension funds and old-age retirement plans, which would otherwise be unviable if the current trend in interest rates continues. But starting from this current point of ultra-low interest rates, it is unlikely that interest rates would suddenly spike to damagingly high levels.

Third, it is logical that switching to a sovereign money system would mean that interest rates on time deposits (i.e. savings or investment accounts) would need to rise once the government guarantee (deposit insurance) is removed and these accounts become risk-bearing. The higher interest rate would be needed to compensate savers and investors for the higher level of risk. However, the lack of competing risk-free interest-bearing assets to invest in (other than government bonds) would mean that there would not necessarily be a more attractive asset for Investment Account holders to switch into. Consequently, it is possible that interest rates on banks' time deposits may not increase significantly, despite the loss of the government guarantee. And even if rates were to rise, it is not clear whether the rise would be passed on in full to borrowers, or whether it would simply squeeze bank margins (which could be seen as the effect of removing an implicit government subsidy to the banking sector).

Fourth, even if interest rates did start to hit economically harmful levels (which is far from likely), the central bank would always be able to create money and inject it into key markets to bring interest rates down. Further work needs to be done on whether and when it would be desirable to do so, but the central bank would always have this option; it would not need to stand by passively in the face of excessively high rates.

Another consideration is that interest rates on loans are determined not only by the supply of credit, but also by the lender's perception of the riskiness of the venture. If a sovereign money system were to create a more stable economy as predicted by its advocates, then perceptions of risk would fall and so would interest rates.

Finally, on the subject of volatility: with large pools of capital seeking a return, and a central bank which could intervene in key credit markets if essential, it is difficult to see why interest rates would be significantly more volatile than at present.

## 6.3 Emergence of near monies

A number of critics have expressed the belief that the central bank would not be able to retain control over which financial assets were used as a means of payment, and therefore which would be used as money (e.g. Fontana & Sawyer, 2016; Nersisyan & Wray, 2016). They anticipate the danger that “near monies” – substitutes for state-money – will emerge from the shadow banking sector.

Firstly, it is crucial to make a distinction between money as a store of value, and money as a means of payment. Many of those writers who claim that near monies will spontaneously emerge from non-bank financial institutions seem to be referring to ‘money’ in the sense of highly liquid stores of value (e.g. Dow, 2016; van Dixhoorn, 2013). For instance, money market fund (MMF) shares are clearly highly-liquid stores of value, and holders of MMF shares may see them as equivalent to bank deposits. But money market funds do not create additional purchasing power. They arrange the transfer of existing bank deposits from savers to borrowers, via the shadow banking system, as part of the “secondary lending circuit”<sup>27</sup> but the shares that they create cannot be used directly as an additional means of payment (Michell, 2016).

Secondly, creating a substitute for state money as a means of payment is easier said than done. It is a truism that any entity can issue liabilities on themselves, but to get those liabilities used as a widely accepted means of payment (i.e. to turn them into money) requires that: (1) there is a payment system allowing those liabilities to be reassigned from payer to payee, and (2) third parties will accept these liabilities in payment. Beginning with the Promissory Notes Act 1704, it took many decades for banks to gain sufficient public trust in order to make bank deposits an adequate substitute for central bank money, and even this was only possible due to the state’s provision of liquidity guarantees from the central bank and credit guarantees via deposit insurance. It is therefore straightforward to place constraints on firms wishing to offer payment services which make them unable to create money. Indeed, this aim could be achieved simply by tweaking the current EU regulations (Payment Services Directives 1 & 2), to require payment institutions to ‘safeguard’ their customer funds in full at the central bank rather than at commercial banks.

Third, it would be necessary to impose an obligation for any firm that promises to repay its customer funds on demand to have those funds available in full at all times. If this was considered a ‘draconian’ restriction on the financial sector, as some critics have suggested, then there could be a second option, in which the firm gives all customers an ‘honest sales pitch’ that explains that *their* funds are not being warehoused, and so they cannot be guaranteed access to their funds on demand, but that they instead have the right to draw on a shared pool of liquid funds, on a first-come-first-served basis.

It is of course important for the central bank to be aware of the risks of near monies emerging, but an assessment of those risks should be based on an understanding of the realities of payment systems and the difficulties of getting private liabilities widely accepted as a means of payment, rather than a sweeping assumption that the public would switch to near monies the instant that banks were restricted from issuing money in the form of deposits.

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<sup>27</sup> Lending of pre-existing money

## 6.4 Risks from shadow banking

Fontana & Sawyer (2016) write that sovereign money proposals would only affect a small part of the financial system – commercial banks – and ignore the many non-bank intermediaries and shadow banks, which “account for most if not all of the growth of the financial system over the past decades”, and which are considered to be the main cause of the financial crisis of 2007-2009.

The first point to note is that much shadow banking activity was an extension of the transformation of maturity, credit risk and size traditionally undertaken on a bank’s balance sheet. Because the shadow banking process splits these ‘transformations’ across one or more of up to seven separate processes, each with its own balance sheet, there is a proliferation of intra-financial liabilities – liabilities from one shadow bank to another (McMillan, 2014; Pozsar et al., 2013). Measures of the growth of shadow banking typically measure this growth in gross liabilities, whereas the measures of the scale of conventional banking usually use liabilities to the non-bank private sector. Consequently, much of this growth in shadow banking reflects considerable double counting, significantly overstating the scale of shadow banks relative to commercial banking (Pozsar, 2011).

Secondly, much shadow banking activity prior to the 2007-09 global financial crisis was an attempt to meet the demand of institutional investors for ‘safe assets’. Institutional investors (e.g. pension funds, insurance companies and large corporates) had a demand for safe assets partly because the sums of money they need to hold greatly exceed the coverage of deposit insurance (the government guarantee on bank deposits, currently capped at £75,000 per customer in the UK, €100,000 in the Eurozone and \$250,000 in the USA). This means that institutional investors and large corporates could not hold significant funds at commercial banks without becoming unsecured creditors exposed to all of the opaque risks taken by the bank (Pozsar, 2011). Treasury bills (and bonds) were their preferred safe asset to hold instead of bank deposits, but the level of demand for these bonds exceeded their supply, fuelling the demand for the creation of ‘safe’ assets by the shadow banking sector.

However, in a sovereign money system, any individual or corporate entity could hold unlimited balances in the form of risk-free sovereign money held at the central bank. This would satisfy some of the need for safe assets. Of course, sovereign money balances at the central bank would not be interest bearing, so there would still be a demand for ‘safe’ assets that bear interest. However, for many institutional investors and large corporates, cash management should become easier when they no longer need to look for the “insured deposit alternatives” created by shadow banks (Pozsar, 2011).

Finally, and most significantly, the shadow banks’ creation of ‘safe’ assets relied on the ability of commercial banks to create money (in the form of bank deposits) on demand. By definition, shadow banks could not access ‘official’, state-provided liquidity or credit guarantees (such as Lender of Last Resort or deposit insurance). Instead, they indirectly accessed these facilities by taking out lines of credit with commercial banks, or paying for credit guarantees from commercial banks, enabling them to achieve AAA credit ratings (Pozsar, 2013). Banks could offer these lines of credit due to their ability to create demand deposits instantly upon receiving a request from a customer. From the perspective of the hierarchy of money, shadow banks relied on commercial banks’ ability to create demand deposits at will, in the same way that commercial banks rely on the central bank’s ability to create money at will. Without the ability of banks to create money on demand and provide these liquidity guarantees, it would not be possible for shadow banking activity to successfully create the illusion of ‘safe’ assets, certainly at anything approaching the scale achieved by 2008 (Ingham, 2004A: 140-41). Consequently, a sovereign money system may be a powerful way to constrain excessive growth of the banking system.

## 6.5 Confusion with monetarism

In the late 1970s and early 1980s, central banks adopted ‘monetarism’. As Bezemer (2006) writes:

“Briefly, monetarism is the idea that inflation has primarily monetary (rather than socio-economic) roots — more precisely, that **growth of the money supply is directly linked to inflation**. Economists reached a consensus that **monetary policy should be focused on control of the money supply via control of reserves**, in order to control inflation. Attempts to implement this however failed, as the supposed money-inflation relation did not hold, money growth targets were not realised, and serious damage to the real economy appeared to be the inevitable side effect of this way of going about monetary policy. After several decades of intellectual dominance by the Monetarists, mainstream economics let go of the notion that any money aggregate is systematically related to inflation or growth. As a result, by the end of the 1980s targeting monetary aggregates had fallen into disrepute with the monetary authorities.” (Bezemer, 2006)

Other key elements – and failings – of monetarism include:

- An obsessive focus on controlling inflation, at the expense of all other economic or social indicators such as employment.
- A simplistic understanding of the causal mechanism behind inflation, which assumed broadly that any creation of money would automatically lead to inflation. As Bezemer notes above, this ignores the many other socio-economic drivers of inflation.
- The failure to make a distinction between the different ways that newly created money can be used. Monetarists talked about money creation and money growth, but paid no attention to whether the money being created was financing transactions in the real economy or financing asset purchases in the financial markets.
- The focus on the *stock* of money, and the growth in the stock, rather than the *flows* of spending (including spending which is financed by money creation). Since much of the *stock* of money sits idly in people’s bank accounts, there is no reason why the stock of such idle money would affect the current level of inflation.
- An attempt to control bank lending (and the resulting money creation) by controlling the supply of central bank reserves, based on the flawed and obsolete ‘multiplier model’ of money creation. In reality the supply of central bank reserves is not an effective constraint on bank lending (Ryan-Collins et al., 2011) and therefore this had limited effect on the level of bank lending, although it did have a significant impact in pushing up interest rates.

Unfortunately, our earlier descriptions of a sovereign money system were written in such a way that they gave the impression of being an extension of monetarist thinking, and we failed to be explicit enough about the differences. However, there are fundamental differences which make it clear that a sovereign money system is *not* based on monetarist thinking:

- Monetarism aimed to control money creation by banks as a means of controlling inflation. In contrast, a sovereign money system aims to control (or more precisely, eliminate) money creation by banks to avoid the wide range of negative social, economic and environmental consequences outlined in Chapter 2 (in which inflation does not feature).
- If central banks continue to use inflation targeting in a sovereign money system, then inflation expectations will be used to guide their monetary policy decisions. However, it is important to recognise that in a sovereign money system, central banks would not be working on the monetarist assumption that money creation directly creates inflation. Instead, the central bank would use money creation to influence *aggregate*

*demand* initially, with the understanding that it is aggregate demand that affects the other possible objectives of monetary policy, such as inflation, employment and growth. The Bank of England's own framework for understanding this effect assumes a two-stage process in which it takes around 12 months for monetary policy to have impacts on aggregate demand, and a further 12 months for the change in aggregate demand to have an impact on inflation (Bank of England, 1999). In a sovereign money system, money creation by the central bank would influence aggregate demand initially (potentially with a shorter time lag), and this would ultimately affect employment, growth and inflation (alongside a wide range of other factors). (There are valid questions about the usefulness of inflation targeting as a framework for guiding central bank actions.)

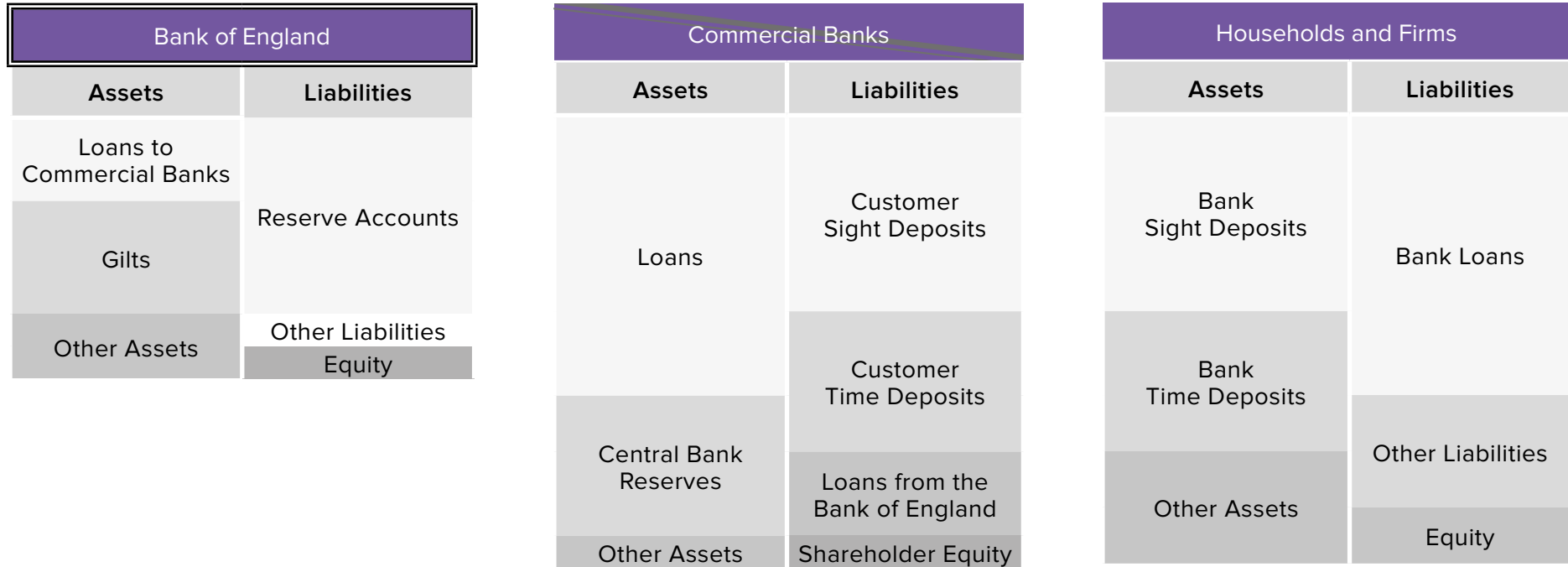
- We recognise that there is no hard and fast relationship between money creation and inflation. Inflation, and indeed employment and growth, are complex phenomena determined by a wide range of processes, and there is no simple linear relationship between them. However, regardless of the objective of monetary policy that is chosen, we believe that a sovereign money system would be better able to achieve that objective than the current system.
- Monetarism saw all money creation as ultimately inflationary. In contrast, a sovereign money system recognises that money creation can be a positive tool if used in the right way. For example, money creation could be used to finance essential investments in infrastructure, including health care, all with very significant benefits for the performance of the economy. However, a sovereign money system also recognises that the impact of money creation depends on the use of that money. Too much money creation to finance purchases of pre-existing assets such as housing and land can cause house price inflation, making housing unaffordable (with negative impacts on the economy as a whole).
- We recognise that the money multiplier model of money creation is inaccurate (Ryan-Collins et al., 2011), and that controlling the interest rate at which reserves are supplied by the central bank is an ineffective way to control money creation by banks. Instead, rather than trying to regulate money creation through weak regulations, a sovereign money system would completely remove the power of banks to create money.
- We focus on the impact of money creation on financing new spending (or new asset purchases); in other words, we focus on the *flows* rather than worrying about the *stock* of money.



# APPENDIX: BALANCE SHEETS PRE- AND POST-TRANSITION

The charts on the following pages show the stylised balance sheets of the Bank of England, commercial banks, and the private sector (households and firms together) at three points in time: today, one day after the switchover, and 30 years after the reforms have been implemented.

Figure 1: Stylised balance sheets in the current monetary system



Bank deposits exceed the quantity of loans due to the effects of QE. During QE the Bank of England purchased bonds from non-banks. This led to an increase in deposits and reserves one for one.

Figure 2: Stylised balance sheets for the monetary system the day after the switch

Bank of England	
Assets	Liabilities
Loans to Commercial Banks	Other Liabilities
Gilts	Transaction Accounts
Other Assets	Operational and Investable Funds Accounts
Commercial Banks' Conversion Liability to Bank of England	Central Government Account
	Equity

Commercial Banks	
Assets	Liabilities
Pre Reform Loans	Conversion Liability to Bank of England
Operational and Investable Funds Accounts	Investment Accounts
Other Assets	Loans from Bank of England
	Shareholder Equity

Households and Firms	
Assets	Liabilities
Transaction Accounts	Bank Loans
Investment Accounts	Other Liabilities
Other Assets	Equity

Figure 3: Stylised balance sheets for the monetary system 30 years after the switch

Bank of England	
Assets	Liabilities
Other Assets	Other Liabilities New Transaction Accounts
Zero-interest perpetual bonds issued to back newly issued sovereign money	Transaction Accounts
	Operational Accounts and Investable Fund Accounts*
	Central Government Account
	Equity

Commercial Banks	
Assets	Liabilities
Post Reform Loans	Investment Accounts
Operational Accounts and Investment Pools*	Shareholder Equity
Other Assets	

Households and Firms	
Assets	Liabilities
New Transaction Accounts	Bank Loans
Transaction Accounts	
Investment Accounts	Other Liabilities
	Equity
Other Assets	

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