



Long Distance  
Christian

# Crumbling Foundations

A biblical critique of  
modern money

**Guy Brandon**



## About *Crumbling Foundations*

Although the Global Financial Crisis sparked a renewed debate about the nature of a healthy economy and the shortfalls of Capitalism, there has been less interest in the monetary system that underpins these. The reality is that the way money is created has huge implications for the economy – and the people – it is supposed to serve. Trying to treat a dysfunctional economy without understanding the monetary system on which it rests is analogous to treating a respiratory complaint without consideration for the quality of the air the patient breathes.

Our debt-based and centrally-controlled approach to money has implications that range from the gradual erosion of wealth via inflation to the boom-and-bust of the national economy – culminating in Quantitative Easing and ever more desperate attempts to stimulate economic growth. This booklet aims to explore these problems from a biblical perspective and asks how we might bring these principles to bear on a monetary system is fundamentally unjust and unstable.

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*"Money is a mystery, no more so since the 2008-09 crisis. This paper sheds much needed light to aid understanding while allowing biblical truth to show us the way forward."*

**Paul Mills,**  
**Senior Financial Economist and Cambridge Papers author**

*"It is important that the way in which our financial system works is properly understood by as many as possible, and the paper does a great job in explaining things. No easy task!"*

**James Featherby,**  
**author of *Of Markets and Men: reshaping finance for a new season***

**Guy Brandon** is research director for the Jubilee Centre and holds a PhD in Old Testament theology from Cambridge University. His books include *Digitally Remastered: A biblical guide to reclaiming your virtual self* (Muddy Pearl) and *Votewise 2015* (SPCK). Guy is married with two children.

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# Preface

Two days before becoming Prime Minister in July 2016, Theresa May declared that ‘Monetary policy – in the form of super-low interest rates and quantitative easing [QE] – has helped those on the property ladder at the expense of those who can’t afford to own their own home.’ The current policy is failing to contribute to the kind of society that she envisions, ‘one that works for everyone not just the privileged few’.

Then in August the Bank of England announced a further £60 billion round of QE and cut the base interest rate from 0.5% to 0.25% in an unprecedented bid to stimulate demand and prevent recession and possible deflation.

These circumstances open a window of opportunity for considering how to reform the monetary system, especially the way money is created. Since the 2007/08 global financial crisis, it has become more and more apparent that you cannot understand the economy if you don’t understand finance. And you can’t understand finance if you don’t examine how money is created and managed by institutions in that sector.

The Jubilee Centre has a track record of providing biblical perspectives on developments in the economy and finance for over three decades. We’re convinced that another banking crisis is looming on the horizon, as too few of the issues exposed eight years ago have been resolved.

This booklet is written to help Christians, especially those working in the financial sector, to be better prepared with fair and effective policy responses when that crisis does come, and in the meantime to help them be more effective as ‘salt and light’ in this crucial arena of public life (Matthew 5:13-16).

Jonathan Tame

*Executive Director, Jubilee Centre*

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# Introduction

Money can't buy what it used to. In 1971, the average house in the UK cost around £6,000.<sup>1</sup> Inflation means that £1 in 1971 would purchase the same as £14 today – a fall of 93 percent in value. Meanwhile, annual wages have risen by over 16 times, from £1,600 in 1971 to £26,000 in 2015. Yet by 2015, the average house cost £285,000, almost 50 times higher.<sup>2</sup>

Wealth inequality, which fell substantially over most of the 20th century, is now rising fast.<sup>3</sup> Britain's richest 1 percent own more wealth than the bottom 50 percent of the population, and the top 10 percent own almost half the country's wealth.<sup>4</sup> Debt is rising too. In 2005 the national debt was 38 percent of GDP, but the financial crisis meant that by September 2016 it was estimated to have reached over 83 percent of GDP – around £1.6 trillion. The interest bill is expected to top £1 billion every week (peaking at £57.3 billion annually by 2019-20) despite historically low interest rates.<sup>5</sup> Personal debt follows the same pattern, with UK households now owing a total of £1.45 trillion.<sup>6</sup>

The Global Financial Crisis sparked a renewed debate about the nature of a healthy economy and the shortfalls of Capitalism, the ideological framework within which our financial system operates. Although there has been much discussion about finance and the economy, there has been less interest in the monetary system that underpins these – and now that the immediate danger has passed, there is no longer much impetus for change.

But the reality is that the way money is created has huge implications for the economy it is supposed to serve. All of the above examples are rooted in, or influenced by, the way we 'do' money in the 21st century. Trying to treat a dysfunctional economy without understanding the monetary system on which it rests is analogous to treating a respiratory complaint without appreciation for the quality of the air the patient breathes. Money matters.

Christians should be engaging with these issues of social justice but lack a coherent framework within which to do so. Moreover, there is little consensus among experts about some of the most fundamental aspects of money creation and its effects on the economy. As Winston Churchill said, 'If you put two economists in a room, you get two opinions, unless one of them is Lord Keynes, in which case you get three opinions.' This makes any application from biblical principles – already controversial enough in its own right – certain to attract criticism from some quarters. This booklet aims to provide

both an overview of money itself and a set of biblical principles from which to work, with the intention of informing Christian engagement in monetary reform.

## What is money?

Although there has been a lot of debate about the nature of money, there is no real consensus at a fairly basic level about what money really *is*. Economists broadly agree that money must serve three main functions in order to be useful. These are overall purposes, which may be achieved more-or-less successfully, depending on the nature of the currency in question and the characteristics of the economy in which it is used.



**Unit of account.** Money is a measure of value (or, more accurately, price): it enables direct comparison of value between items of different natures.



**Means of exchange.** Rather than exchange goods or services directly with each other (barter), money can be used to mediate the transaction. Thus money should ideally be universally accepted by merchants.



**Store of value.** Money must retain most of its value over time, and it must be possible to save and retrieve it at a later date so that it can be used as a medium of exchange in the future.



These functions are made possible by a number of innate properties. They are not binary characteristics, and different forms of money will exhibit them to a greater or lesser extent.

- 1) **Fungibility.** One unit must be equivalent to another – any £10 note has the same value as any other £10 note. Merchants should not have to compare units to decide whether to accept them or not.
- 2) **Scarcity.** There should be a limited supply of the currency, allowing it to retain its value (which would otherwise be lost through inflation).
- 3) **Portability.** It must be possible to move money around in order for it to fulfil its function as a medium of exchange – either in physical form, as coins and notes, electronically, or in other ways.
- 4) **Divisibility.** It should be possible to divide money into small units without affecting its value.
- 5) **Counterfeit-resistance.** Money must be recognisable as such, and also hard to forge so that it maintains its scarcity.
- 6) **Durability.** It must not decay or otherwise lose its value over time.

Although these are the ideal properties of money, they are not all strictly necessary and some forms of money in the past have not had all of them. Micronesian rai stones are large, carved limestone disks, up to 3.6 metres tall and weighing up to 4 tonnes. They meet the criteria of scarcity, durability and resistance to counterfeiting, though they are neither divisible nor portable. In this case, money changes possession not through being handed from person to person, but by being recorded in an oral history – a rai stone belongs to someone through agreement, and stones are not generally physically moved if ownership changes. (A similar system is used for vault gold.)

Regardless of these 'ideal' characteristics, money is effectively just what people agree is 'money'.

Regardless of these 'ideal' characteristics, money is effectively just what people agree is 'money'. Over the course of history and in different situations, there have been many forms of currency – gold and silver, seashells, salt, cattle, cigarettes, squirrel pelts, knives, rum and Parmesan cheese, to name a few. There is no single one-size-fits-all solution that works just as well across every context – for example, at any point in history, for face-to-face transactions, over the internet, for large and small payments, for international transfers, and so on. What we think of and use as money is highly dependent on context.

## The origins of money

One of the major theories for the evolution of money holds that it developed from the shortcomings of a barter economy. The theory is that in early societies, people would trade different goods directly. However, if you wanted axe heads but only had cows, you had to find someone in the opposite position – a ‘coincidence of needs’. There was also the problem that people would not have the right quantities of the items being traded. Perhaps the agreed exchange rate is ten axe heads for a cow but the person in question only has five axe heads to trade.

It therefore makes sense to find a universal medium of exchange to use as an intermediate step in trading – something that is rare enough to have value, that is divisible, and on the basis of which other items can be priced. Corn is one example of such a medium. Now, the cow can be sold for a given amount of grain, and some of this grain can be exchanged for axe heads whilst the rest can be kept for consumption or future purchases.

Precious metals, particularly gold and silver, have been used as money from early times due to their scarcity, attractiveness and durability. Since metals had to be weighed out and their purity verified, coins were eventually minted to standardise the quantities used in transactions.

## Money as debt

In the above case, money represents a ‘credit’ for a given item. A competing theory holds that debt was really the first medium used to facilitate trade.<sup>7</sup> Barter of course existed, but tended to take place between strangers or enemies, never as the chief means of commerce within a close group: it was the default means of transaction amongst those who were not held together by ties of kinship.

David Graeber argues that there is no real evidence that money developed to expedite barter – in fact, there is no evidence that full barter economies ever existed, or exist anywhere in the world today.<sup>8</sup> Instead, people in early communities went into each others’ debt when one of them had need. The coincidence of wants is addressed by (formally or informally) remembering the debt with the knowledge that it would be repaid in the future because it was in everyone’s interests as neighbours to work together and trust each other. Assets might be taken as collateral and forfeit in the event of non-

payment, and those who defaulted might quickly find themselves marginalised and without support when they needed it.

This is a more human way of understanding early commerce than the conventional assumption that money arose out of the deficiencies of the barter system and its inconvenience for those who used it. The idea is that – at least in a small and close-knit community – it is more natural to trade goods and services with someone because they have given you something or helped you in the past, than because a previous transaction has given you a positive balance, which you can spend where and with whom you choose.

In this theory, money and debt were created at the same time, because money is used to quantify debt.

In this theory, money and debt were created at the same time, because money is used to quantify debt. Some of the oldest written documents in existence record funds owed for rent of temple lands and rations issued by temples. ‘One shekel’s weight in silver was established as the equivalent of one gur, or bushel of barley. A shekel was subdivided into 60 minas, each corresponding to one portion of barley – on the principle that there were 30 days in a month, and Temple workers received two rations of barley every day. It’s easy to see that “money” in this sense is in no way the product of commercial transactions. It was actually created by bureaucrats in order to keep track of resources and move things back and forth between departments.’<sup>9</sup> Once that unit of account had been established, silver effectively became money – though debts were more often settled in other ‘currencies’, such as barley.

So Graeber maintains that debt/trade finance came first, and that the normal way of doing business was to run up a tab, which would be settled at a convenient time (such as the harvest, or whenever they next slaughtered a pig). Money was a standard of deferred payment.

The next development was that whatever the state accepted as settlement for tax debts became considered as money (‘legal tender’), since this fully standardised payment methods. Chartalism, or the State Theory of Money, sees money as originating as the instrument of the state – a means to raise taxes and manage economic activity. The state may or may not actually create money, but enforces its value (gives it value as a way of paying tax) and sets out the legal terms under which it operates (which monies can be used to discharge debts).

# Money in the Bible

Some of the earliest written texts establish equivalence between a given weight of silver and a measure of barley, period of labour, and many other things beside. Whether as a means of accounting or a substitute for the inconveniences of barter, silver could thereby be used as a medium of exchange.

Both silver and grain are used as currencies... biblical texts establish the exchange rate between silver and barley seed.

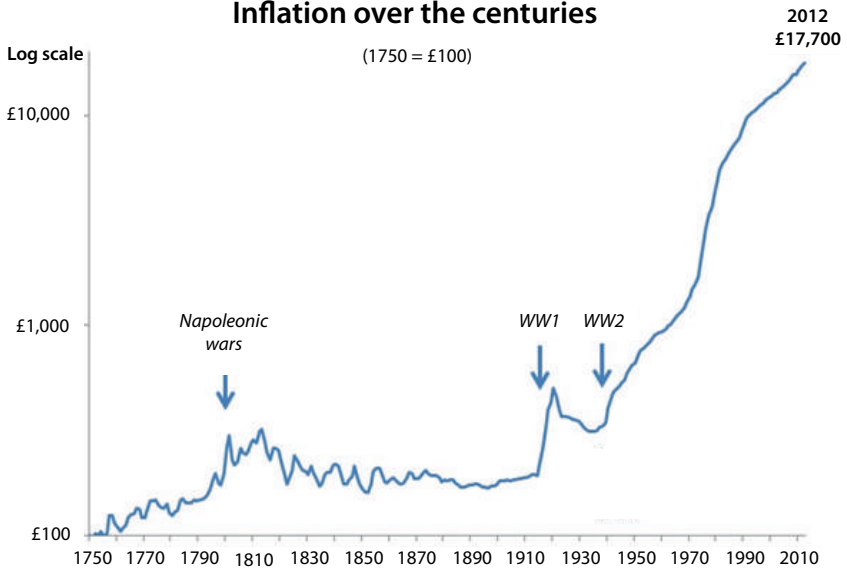
This is the case in early biblical times. The Hebrew word for money is *keseḥ*, which also means silver – pieces of metal that were measured out to an agreed weight for the transaction in question.<sup>10</sup> A touchstone would

be used to determine the purity of silver being weighed out, meaning it was relatively easy to quantify the value in any given transaction. The main issue appears to have been some unscrupulous merchants using dishonest weights – about which there are numerous laws in the Bible (e.g. Leviticus 19:35). Both silver and grain are used as currencies<sup>11</sup> and, as with the Sumerian records, biblical texts establish the exchange rate between silver and barley seed (see Leviticus 27:16).

## Inflation

Silver satisfies the criterion of scarcity, though it is not as scarce as gold so there was enough of it for convenient everyday use in the ancient world. Money – silver – retained a relatively constant value over hundreds of years. Jeremiah paid 17 shekels for the field at Anathoth (Jeremiah 32:9). Zechariah 11 records the prophet throwing 30 silver pieces to the Potter in the Temple; nearly six hundred years later, Judas's 30 silver pieces bought the Potter's field (Matthew 27:9-10).<sup>12</sup> Assuming they are the same fields, or even different ones of remotely similar size, this shows remarkable stability of prices over hundreds of years. At a rate of 2% inflation, the target rate for many governments today, the field Jeremiah purchased for 17 shekels would have cost around 2.5 million shekels by the time of the crucifixion!

## Inflation over the centuries



Moreover, money truly belonged to the people. It was not issued or controlled by a single body, whether a central bank, the Temple or the state. The Levites only had a role in maintaining accurate weights and measures (see 1 Chronicles 23:29 and Leviticus 19:35-36). This was the sanctuary shekel, used for transactions in the Temple (e.g. Exodus 30:13). This may have been used to verify merchants' weights too. Such oversight was clearly necessary: the prophet Micah voices God's anger at some of the practices that existed: 'Shall I acquit someone with dishonest scales, with a bag of false weights?' (Micah 6:11)

Different authorities had different standard weights they used (like the royal stone and the sanctuary weight) but no one controlled money itself. Market forces might have pushed its value up or down; a particularly good harvest might have seen barley's value fall against silver, for example, as oversupply decreased the price of grain. Conversely, in the siege of Samaria recorded in 2 Kings 6, the high demand for food meant that a donkey's head changed hands for as much as 80 shekels. New supply was possible through mining or conversion of jewellery or plate metal. But no civil servant could interfere with the money supply centrally, at the whim of a king or emperor.

## Limits on government

This independence of the money supply would change later in biblical history – partly due to the adoption of new processes and technologies, and partly due to political developments. In Israel's earliest days, there was no formal system of government as we understand it. Rather than rigid top-down organisation, tasks were carried out by families, clans, towns, tribes and Levites, depending on which had most direct interest in the outcome. Responsibility was passed upwards to a higher or more centralised body only when necessary – for example, when a local court could not deal with a complex case (Deuteronomy 17:8-13), or when the nation as a whole came together in the interests of national defence. This has similarities to the idea of Subsidiarity in Catholic social teaching and to the idea of sphere sovereignty in Neo-Calvinist thought.<sup>14</sup>

In fact, the Bible shows a distinct wariness of centralised authority. Over the course of biblical history, God's people suffered repeatedly under oppressive and abusive rulers: first the Egyptians, with their extensive state bureaucracy and all-powerful god-king Pharaoh; then under the Assyrians and Babylonians, responsible for exacting heavy tribute and for the exile of the northern and southern kingdoms of Israel and Judah, respectively; and finally under the Greeks and Romans, in the New Testament, who denied the Jews their autonomy as a people and persecuted both them and the new sect of Christians. The Israelite monarchy itself was a concession to the people (1 Samuel 8) and its consequences for the nation were disastrous. The monarchy was a source of national idolatry, and few kings received God's unconditional approval.

Concentrated power, whether political, financial or technological – the three tend to go together, today and in biblical times – risks being distant and indifferent towards its citizens, at best, and more likely exploitative, oppressive and coercive. For this reason, the Bible is clear that there should be limits to the power of Israel's own king. The king was to be under the Law, not above it. He was not to amass financial or military resources (Deuteronomy 17:14-20). Unlike Pharaoh, his authority was not absolute. The Law and the Levites provided a system of checks and balances that were intended to prevent Israel's king from acting like a tyrant, beyond accountability.

This is of great relevance to our approach to money and any application we might make from biblical principles. With the development of coinage, money became and has remained ever since an instrument of the state. How we deal with money today is still connected fundamentally with our view of government.

## Coins: seigniorage, debasement and inflation

Standardised weights in the form of coins were a relatively late development. In the year 588 BC, almost 1,500 years after Abraham purchased the field for Sarah's burial, Jeremiah weighed his own payment for a field on scales, indicating that coinage still wasn't available or trusted (see Jeremiah chapter 32). Coins were probably not developed until the 6th century BC, in Lydia (modern-day Turkey), possibly reaching the Israelites after the return from exile, through Persian influence, as late as the 4th century BC.

Coins were issued by authorities such as governments and could have a higher face value than their cost of production (primarily the weight of the precious metal in them). This difference (seigniorage) is the 'trust premium' that such a coin would always be accepted by the authority in question as holding that value – as in the payment for taxes. Outside of that system, there were no guarantees the premium would be paid; foreign governments, for example, would not necessarily accept the coinage of another state at face value, though they would accept its metal value.

Seigniorage is effectively a tax that allows an authority to profit from minting coins.

Seigniorage is effectively a tax that allows an authority to profit from minting coins, though there would usually still be a broad link between the value of the coin and the metal from which it is made. (In the modern context, there is far greater difference between the face value of banknotes and their cost of production.) Throughout history, governments have exploited this as a source of funds, debasing the money supply by adding a percentage of low-cost metals to the gold and silver in their coins as a form of easy tax revenues. More serious debasement was unpopular, since people soon realised the metal content of their money was worth significantly less than its face value.<sup>15</sup>

Coinage allowed governments to take reliable control of the money supply for the first time in history. Money became an instrument of the state, issued by the state and due to the state. Questioned about the legitimacy of paying

taxes to the Romans, Jesus famously asks for a denarius, used to pay the tax. ‘He asked them, “Whose image is this? And whose inscription?” “Caesar’s,” they replied. Then he said to them, “So give back to Caesar what is Caesar’s, and to God what is God’s” (Matthew 22:20-21).<sup>16</sup>

As it happens, the denarius is the perfect example of the risks of state control over a currency. When it was first minted in around 211 BC it was made from almost pure silver and weighed around 4.5 grams, but over the years both its size and purity were reduced. In Jesus’ time it contained around 3.9 grams of silver, and later in the 30s AD Nero further reduced the silver content. By the middle of the third century AD it was a copper coin with no more than a thin plating of silver.

Inevitable interference through seigniorage and debasement led to money being worth less than it claimed to be at face value.

Thus money developed, in biblical times, from being pieces of silver – highly divisible, weighed out on demand, and of known purity – to government-issued coinage. Inevitable interference through seigniorage and debasement led to money being worth less than it claimed to be at face value. If the economy is not expanding,<sup>17</sup> or if people lose confidence in the currency, then debasement causes inflation and the *de facto* transfer of wealth from holders to issuers of money.

## Making money today

The use of precious metals as money continued for many centuries, with both gold and silver widely used for coinage and most currencies formally or informally remaining on some kind of gold or silver standard until the early 20th century. Each currency unit could be redeemed for a given weight of precious metal, but commodity money is inconvenient for moving large amounts of cash around. The solution was the creation of representative money, whether in the form of coins or paper notes, exchangeable at least in theory for physical reserves of gold, which therefore retained its value but was easier to manage.



## Fiat money

The development of representative money opened the way for the new development of ‘fiat’ money, from the Latin ‘it shall be’. Fiat money is neither created from, nor backed by, precious metal.<sup>18</sup> Instead, the government – generally through an independent body such as a central bank – simply decrees that it is legal tender, giving it value, not least because it can be used for paying taxes, despite the token itself being intrinsically worthless. Severing all links with precious metals allowed governments not only to debase a currency but to control the money supply fully. The state can literally print money if it wants, though there can be inflationary consequences when it does.

There are advantages and disadvantages to fiat money. The control it gives the government over the base money supply is double-edged. It can lead to devaluation of the currency and runaway inflation. The Weimar Germany is the textbook example, along with both post-war Hungary and Zimbabwe from the late 1990s.<sup>19</sup> However, control of the money supply can also provide a tool to deal with changes in the economy. A shortage of new money can hold back economic growth; in a recession, governments can increase aggregate demand by creating more money.

There are advantages and disadvantages to fiat money. The control it gives the government over the base money supply is double-edged.

## Money creation: central and commercial bank money

Money in its different forms – physical cash, central bank deposits and commercial bank deposits – is essentially an IOU from one party to another.<sup>20</sup> Currency is an IOU from the Central Bank to the public, as the inscription on UK banknotes states: ‘I PROMISE TO PAY THE BEARER ON DEMAND THE SUM OF...’ Central bank deposits are IOUs from the Central Bank to commercial banks. And commercial bank deposits are IOUs from commercial banks to account holders.

Only a small amount of the total money in an economy exists as currency, that is, physical coins and notes. Notes are typically printed by the Central Bank and coins minted on behalf of the Central Bank or Treasury. The Central Bank credits commercial banks with central bank reserves equal to the note value in circulation. It also purchases securities like government or corporate bonds

and credits clearing banks with central bank reserves. Together, these reserves and currency are known as central bank money.

Central bank reserves are only used by financial institutions. However, by far the largest proportion of the broad money supply – that is, the most accessible forms of money, including physical cash and funds in deposit accounts – is created by commercial banks,<sup>21</sup> which effectively lend money into existence when granting customers new loans. The process of money creation by commercial banks in the UK is explained by the Bank of England thus:

‘In the modern economy, most money takes the form of bank deposits. But how those bank deposits are created is often misunderstood: the principal way is through commercial banks making loans. Whenever a bank makes a loan, it simultaneously creates a matching deposit in the borrower’s bank account, thereby creating new money.

The reality of how money is created today differs from the description found in some economics textbooks:

- Rather than banks receiving deposits when households save and then lending them out, bank lending creates deposits.
- In normal times, the central bank does not fix the amount of money in circulation, nor is central bank money “multiplied up” into more loans and deposits.

Although commercial banks create money through lending, they cannot do so freely without limit. Banks are limited in how much they can lend if they are to remain profitable in a competitive banking system. Prudential regulation also acts as a constraint on banks’ activities in order to maintain the resilience of the financial system. And the households and companies who receive the money created by new lending may take actions that affect the stock of money — they could quickly “destroy” money by using it to repay their existing debt, for instance.<sup>22</sup>

All of this happens electronically. Banks can, effectively, convert one form of money (currency/central/commercial bank deposits) into another. When a bank creates an asset in the form of money that it lends to a customer, it also creates a liability. Money created will appear as an increase in the customer’s deposit account, however briefly. For example, if a customer borrows £100,000 for a mortgage, that will be reflected by a £100,000 asset on the bank’s balance sheet (since the customer has committed to paying them this amount), and a liability for the customer to repay the same amount, plus

interest. The customer will then pay this money to another party (the owner of the house he or she is purchasing), so it will be transferred to another bank account. Thus in the overall banking system newly-created assets in one bank are balanced by corresponding liabilities, most often in a different bank.

Contrary to popular perception, then, banks do not lend out customer savings – the now-obsolete ‘Bailey Building & Loan’ model of *It’s A Wonderful Life*. They create money by lending. The total amount of loans is generally between 20 and 33 times the bank’s equity, the value of everything they actually own, meaning the equity of the banks represents only 3-5% of their assets. ‘In early 2009, around the height of the financial crisis, the market valued the combined equity of the major UK banks at less than 2% of their total assets. In other words, the market thought these banks were, on average, over 50 times levered. Measured by their regulatory returns, average leverage was “only” 30 times or so.’<sup>23</sup> There is no clear and enforced separation between demand and savings deposits (instant-access and investment deposits locked up for a certain period of time, and typically paying higher interest rates; a problem with higher-risk, higher-return savings can therefore affect the availability of instant-access deposits). This should indicate something of the fragility of the banking system, recent increases in capital requirements notwithstanding, and why factors such as the subprime mortgage crisis could trigger such devastation of the whole financial sector and beyond, and require such immense taxpayer bailouts.

Contrary to popular perception, then, banks do not lend out customer savings – the now-obsolete ‘Bailey Building & Loan’ model of *It’s A Wonderful Life*.

## Clearing

Moving money between accounts within the same bank is just a matter of updating the bank’s internal (electronic) ledger – crediting one account and debiting another. When money is moved between banks,<sup>24</sup> most of the changes can also be made on the banks’ own ledgers, since on any given day a bank will have broadly similar amounts of funds going into and out of its accounts from many other banks. The banks cancel out these transactions between them in a process called clearing. There will naturally be some discrepancy because the amounts won’t match exactly. At the end of each day, these are cleared at the Bank of England by adjusting the deposits held by each bank.

Thus a relatively small amount of Central Bank reserves can support a much larger money stock and transactions handled by commercial banks.<sup>25</sup>

## A biblical critique of modern money

The monetary system reflected in the Bible is almost unrecognisable compared to our current one. The earlier books of the Bible describe an environment in which ‘money’ (mainly pieces of silver or measures of grain) would be weighed out for each transaction – though most transactions recorded in the

Today, by contrast, we have a complex system whereby both central and commercial banks play a role in the creation of money, and where a large proportion of our transactions are electronic.

biblical text were infrequent and significant, such as land purchase, dowries, compensation for injury, temple tax and so on. Coins were only introduced after the exile, and with them, routine state control over money.

Today, by contrast, we have a complex system whereby both central and commercial banks play a role in the creation of money, and where a large proportion of our transactions are electronic. (Although almost half of all transactions still use cash, a far larger

amount of money is moved electronically.<sup>26</sup>) Nevertheless, there are lessons we can learn from the Bible, and principles we can extract to apply to our own situation. The following sections critique some aspects of our current monetary system from a biblical viewpoint. The Application section below will suggest possible ways forward to address these shortcomings within that biblical framework.

### Debt, interest and inflation

Both interest and inflation are foundational to the way our economy works. Inflation is the devaluing of money; 2 percent inflation means that a loaf of bread that costs £1 today will cost £1.02 next year. Therefore inflation can be thought of as negative interest on holdings of money; £100 of savings will be able to buy less than £100 of goods and services in a year’s time than it can today.

Increasing the money supply is not only undertaken when there is a recession, when deflation or low inflation might otherwise hold back economic recovery. Inflation is a matter of deliberate public policy, with most Western economies targeting around 2 percent a year. There are several reasons why governments, and many citizens, consider some inflation desirable:

- It reduces debts in real terms, meaning that the money repaid has less purchasing power.
- It encourages spending because people think products will be more expensive tomorrow, fuelling short-term economic growth.
- Nominal wage increases make people feel better off year-on-year, by overstating real-terms wage increases or masking real-terms wage decreases.
- Aiming for moderate inflation reduces the risk of outright deflation.

Inflation has a series of negative consequences, too:

- Lenders will not receive back the amount they lent in real terms.<sup>27</sup> Unless they are economically literate, they may be deceived into thinking they are making a greater return than in truth they are.
- Inflation disincentivises saving, because it is cheaper to buy something today than tomorrow.
- Inflation penalises those who derive income from savings, like many pensioners, because it reduces the real return on their investments.

Debt and interest are inherent in our monetary system, because commercial banks create a debt on their ledger to lend out the corresponding credit to customers. The interest they charge is the reward they require for the risk of taking that debt onto their balance sheets, and compensation for inflation. The riskier the loan is perceived to be by the bank, the higher the interest rate they charge.

The Bible has a completely different approach to debt and lending. Borrowing entailed a promise to repay by the borrower to the lender, and thus a form of financial servitude (Proverbs 22:7). Taking out a loan was supposed to be a last resort, a way of avoiding destitution, rather than a part of normal life. From the lender's side, profiting

Debt and interest are inherent in our monetary system, because commercial banks create a debt on their ledger to lend out the corresponding credit to customers.

from a loan to another person was forbidden: ‘You shall not charge interest to your countrymen: interest on money, food, or anything that may be loaned at interest’ (Deuteronomy 23:19). The only time interest could be charged was to someone outside the Israelite community, who was not bound by the same rules as Israelites and might otherwise exploit them by readily defaulting or taking an interest-free loan and lending it out at interest to someone else.

Interest was seen as a form of extortion: a means by which wealthy people extracted money from those who were already poor and vulnerable. To charge interest was to do someone an injustice. ‘Whoever increases wealth by taking interest or profit from the poor amasses it for another, who will be kind to the poor’<sup>28</sup> (Proverbs 28:8). Charging interest on a loan promoted inequality and entrenched poverty. This is the reason that debts were cancelled every seven years, in the Sabbatical year: it was a kind of economic reset, preventing the poor from being caught in a never-ending cycle of repayment and debt servitude (see Leviticus chapter 25; Deuteronomy chapter 15).

Thus money had nothing to do with debt in the way that we take for granted today. The relatively fixed supply meant that money could not effectively be created from nothing to lend to another person at interest. Deuteronomy 23:19 is universal in its scope: no commodity was exempt from the ban on interest.

Not only this, but debt repayment was taken seriously. Jesus repeatedly uses debt as an image for sin, including in the Lord’s Prayer. It was a last-ditch solution to poverty, and taking on a debt was not a decision anyone would make lightly. There were consequences in cases of default, including loss of collateral or servitude to repay the debt through labour. Defaulting on a debt was a serious sin – effectively breaking a promise as well as a form of theft. ‘The wicked borrow and do not repay, but the righteous give generously’ (Psalm 37:21). Default was relationally worse than theft as it involved breach of promise and loss of reputation, as well as depriving another of their property.

This is one reason we might see inflation as being opposed to biblical ideals for money and the economy. Inflation erodes the value of money over time. It obscures the truth when a loan is made: it means that lenders are not repaid the money they are ostensibly promised in real terms, contrary to the biblical obligation to pay our debts. The fact that governments implicitly use inflation as a way of reducing their debt obligations, such as the UK in the 1970s, has

The relatively fixed supply meant that money could not effectively be created from nothing to lend to another person at interest.

significant consequences for the rest of society. It benefits governments to allow high inflation to reduce debt in real terms, thus benefitting current and future generations of taxpayers at the expense of savers and pension funds.

Inflation creates a redistribution of wealth away from citizens towards the government, and from creditors to debtors. This amounts to a form of theft, and thus contravenes the eighth commandment (Exodus 20:15). To place a positive spin on inflation is therefore disingenuous, to say the least.<sup>29</sup> The Bible's teaching on debt and interest, and its implications for inflation, offers a counterpoint to the foundations of the monetary system used today.

## Quantitative Easing

A special case of inflation and seigniorage is Quantitative Easing (QE), the controversial process of 'printing money' used to stimulate the economy during and since the financial crisis in the UK, US, euro area, Japan and elsewhere. In reality, no new (physical) money is printed. Instead, central banks purchase central bank money into existence by buying assets such as government and corporate bonds, and mortgage-backed securities, crediting the seller of those assets with new central bank reserves. The sellers of those assets then use this money to purchase other assets like shares and corporate bonds. In the UK, the Bank of England created £375 billion of new money via its asset purchase programme between March 2009 and July 2012, which it used to buy government bonds (gilts) from institutional investors like pension funds and insurance companies.<sup>30</sup>

QE is a tool to lower long-term interest rates, over which central banks have traditionally had little direct control relative to their control over short-term rates. The intended effect is to boost asset prices, which in turn promotes economic growth through a wealth effect. For example, because people's homes are worth more, people are willing to spend more. Banks' balance sheets are stronger because pension and investment funds have new deposits with them, at least until they purchase other assets, so they are willing to lend more. One other effect of QE is to change the composition of the money supply, since the proportion of central bank reserves in the total money supply rises.<sup>31</sup>

The long-term effect of QE is still unknown. Central banks could sell the assets they have bought as the economy improves, effectively destroying the money created to buy them in the first place.<sup>32</sup> This unwinding will have to be carefully timed to avoid a deflationary impact somewhere along the line.<sup>33</sup> It

is also hard to guarantee that the banks will lend the new money created by QE to the ‘right’ place – like local businesses – rather than in other places that offer a higher, if more fragile return, such as emerging economies. There have been criticisms that QE has not been much help to ordinary consumers and small businesses, because commercial banks have used the money to support their own balance sheets and improve capital holdings – a requirement of new regulation.

Because of the resultant low interest rates and difficulty in targeting the new liquidity towards its desired ends, QE has led to money flowing into other assets, almost certainly contributing to the overvaluation of the stock market and housing assets, if not outright bubbles.<sup>34</sup> Thus it has enriched the already-wealthy, increasing wealth inequality.<sup>35</sup> Meanwhile, some savers and those who rely on savings income have been harmed by lower returns;<sup>36</sup> low interest rates have increased the funding shortfall of defined benefit pension schemes while vastly inflating the off-balance sheet liability of government for the state pension and the pensions of public sector workers.

## Physical cash

In the Bible, physical cash was the only kind of money in use. There was no electronic money. Today, a high proportion of transactions still take place in coins and notes. Recently, though, there have been suggestions that we should do away with physical cash altogether; these range from apparently serious propositions to ‘thought experiments’ and ‘precautionary principles’.<sup>37</sup> There are several reasons for this, but the chief reason given is that it would enable the Bank of England to reduce interest rates well below zero in an attempt to raise the price level by encouraging people to spend the money in their bank accounts. However, in practice, there are already some indications it may not have the desired effect.<sup>38,39</sup>

In principle, the abolition of notes and coins has a number of flaws from a biblical perspective.

### **Centralisation**

One problem with the proposal to abolish notes and coins is the even greater centralisation of money creation and control that it entails, and therefore the concentration of power away from the end-user and up towards the body tasked with creating and managing money. In biblical terms, any concentration of power – including financial – is dangerous,



opening the way to numerous abuses. Connected to this is the requirement that everyone who wished to transact would need a bank account (provided either by the central bank or a conventional private bank), which would strain the consciences of many Muslims and some Christians. The use of alternative monies (such as foreign and local currencies, bitcoin, and gold) would have to be prohibited.

### **Transaction costs**

Many payments are made conveniently by cash, which would involve significantly higher costs if made by electronic means. The abolition of cash would make the payments system more expensive to operate, particularly for small amounts and for the elderly.

In biblical terms, any concentration of power – including financial – is dangerous, opening the way to numerous abuses.

### **Surveillance<sup>40</sup>**

One outcome of moving to an entirely electronic system is likely to be the use of money as a tool of surveillance. Physical cash is anonymous. Forcing every transaction to go through an account enables banks to track who is spending what. This has the advantage of making criminal activity potentially more difficult and expensive to conduct. However, this also undermines personal privacy and civil liberties, reinforcing the tendency towards mass state surveillance, and implicitly assuming citizens are guilty until proven innocent. Access to physical cash is an important limit on the power of a state and a protection against tyranny, since an authoritarian state could control its citizens by controlling their ability to use money, as well as more easily imposing a bank deposit/wealth tax.

### **Devaluation**

Perhaps the most serious problem, though, is that it increases the charge attached to using money. As we saw in the first section, money's purpose to the end user is as a medium of exchange, store of value and unit of account. However, these are fundamentally different to the purposes for which a central bank wants to charge for its use, making it a worse store of value for the user and a source of income for itself. There is a conflict of interest between stakeholders. One of the stated purposes of getting rid of coins and notes is to manage inflation in a low-interest environment by causing people to spend money rather than hold it in an account. Aside from the biblical implications of inflation, this also leads people to save less, increasing the

risk of debt, and therefore the risk of poverty and long-term economic instability for the country.

## Bank deposits and risk

Keeping money in a bank has further issues attached to it due to the expectations we have about risk and return. There are broadly two kinds of bank account, reflecting two different purposes of banking. Historically, current accounts simply provided the ability to pay bills without the need for physical cash, and customers received little or no interest. In contrast, the deposit or savings account provided a return above inflation. The bank invested the funds, taking on the risk of using that money to generate greater returns, and keeping the difference if they were successful.

Returns on any interest-generating account seem riskless to the depositor, but in reality there is always some risk attached to investing or lending by the bank. Thus, to guarantee deposits inevitably means pushing that risk elsewhere. The Financial Services Compensation Scheme (FSCS), which is Treasury backed but industry funded, covers depositors up to £75,000<sup>41</sup> but has minimal reserves in practice and relies on support from the government for a bailout in the event of a large bank failure.

It is a biblical principle that those receiving a return from an investment should also share in the risk involved.

There is obviously a conflict of interests here. The banks are commercial enterprises that exist to make money for their shareholders, who have limited liability if the bank fails. If the risks they take result in losses, as inevitably they will from time to time, the money to repay depositors has to come from somewhere, and when a bank is deemed 'too big to fail' because of the devastating consequences for the wider economy and society, the only solution is for the government to step in and cover the losses – as happened in the bailouts that occurred during the Global Financial Crisis. In this regard, large banks' actions are akin to holding the wider economy hostage, forcing society to cover their losses in cases of systemic failure.

It is a biblical principle that those receiving a return from an investment should also share in the risk involved. In the Parable of the Talents in Matthew 25, the servant levels this criticism at his master:

*"I knew that you are a hard man, harvesting where you have not sown and gathering where you have not scattered seed." ... His master replied, "You wicked, lazy servant! So you knew that I harvest where I have not sown and gather where I have not scattered seed? Well then, you should have put my money on deposit with the bankers, so that when I returned I would have received it back with interest."*

Rather than legitimising interest, Jesus seems to confirm the Old Testament view that interest is a form of injustice and oppression: it is the kind of thing a hard man would do, reaping where he has not sown.<sup>42</sup>

The picture regarding returns on bank deposits has changed somewhat as a result of the Global Financial Crisis. As central banks have reduced interest rates, even some commercial banks are now offering returns below zero, having previously insulated customers from negative rates. Alternative Bank Schweiz was one of the first to announce that it would be charging depositors fees of up to 0.75 percent on deposits held with it.<sup>43</sup> At the present time, deposit accounts are not a way of receiving a guaranteed, inflation-proof, income. Although this was caused by adverse economic circumstances, we should realise that this is based on the economic reality that we should not expect to earn an income unless we are prepared to put our capital at risk.

Current accounts in the UK, meanwhile, receive no interest but their services are apparently provided for free. In reality, payment services have to be paid for. Banks have met these costs in the past by increasing the spread in interest they charge between deposit rates and loans, selling (and mis-selling) Payment Protection Insurance and by imposing draconian charges on customers whose accounts have become overdrawn. 'Free banking' is only possible thanks to cross-subsidisation from other customers.

'Free banking' is only possible thanks to cross-subsidisation from other customers.

## Capital flows and the pro-cyclical economy

A further problem of the current money system is the increased volatility of the economy that tends to result. In a recession, governments and central banks generally lower interest rates to encourage people to spend more money by making saving less attractive. This also means credit is cheaper and

the banks lend out larger amounts to satisfy greater demand. Companies may borrow money to hire new people and invest in their business, for example. But often, the additional money is not spent directly but flows into assets deemed undervalued such as property, stocks, and commodities such as gold and oil. The result can be a speculative bubble. When this is accompanied by inadequate regulation of lending, as in the sub-prime mortgage crisis, the size of the bubble is exaggerated further.

Control over monetary policy gives central banks the ability to address unwanted economic conditions but, in its current form, can also have the effect of exaggerating the impact of capital flows, leading to cyclical 'boom and bust'.

As the economy recovers and grows more rapidly, inflation increases and the central bank raises interest rates to bring it back down. This means that many who have borrowed money have to pay it back at higher rates, which they may find impossible. Having bought assets with cheap money, pushing up their price, they are now forced to sell them, perhaps at a loss, to pay their debts, which may lead to a crash and potentially cause the

next recession as the effects spread through the wider economy. Companies are also affected as they have to pay back loans, and profits are lower because consumers have less money due to their need to pay back their own loans. Jobs are lost, making the problem worse. As the economy moves back into recession, the central bank lowers interest rates to stimulate growth.

Thus control over monetary policy gives central banks the ability to address unwanted economic conditions but, in its current form, can also have the effect of exaggerating the impact of capital flows, leading to cyclical 'boom and bust'.<sup>44</sup> The way our monetary system operates is inherently destabilising to the wider economy.

## Alternative approaches

Our present monetary system poses many risks and disadvantages. From both a biblical and practical viewpoint, there are serious problems that need to be addressed. Various individuals and organisations have suggested ways to engage constructively with the process of money creation and administration

to bring it onto a more just and sustainable footing. For background to the applications given later in this booklet set out below, some of these approaches are summarised here, along with comments on how they align with the biblical ideals for money.

## Positive Money

The UK-based group Positive Money ([www.positivemoney.org](http://www.positivemoney.org)) has campaigned for monetary reform, arguing that because money is created through debt, we have to pay interest on all the money that is issued, and that this is at the root of high levels of debt, inequality and soaring house prices.

Positive Money has campaigned to take money creation away from profit-seeking banks (and vote-seeking politicians), instead giving the decision of how much new money to create to a politically independent body such as the existing Monetary Policy Committee. The resulting money would be spent by the government and lent to banks, who would make their own decisions about where to deploy it in the real economy. Whilst this entails the important step of severing the link between money creation and debt, a centralised committee would still make decisions about how much money the economy needed. Without reform of bank balance sheets, there would also be little control over where this new money was deployed and its effect on the economy.

## The Green Party Manifesto and Labour's 'Corbynomics'

In their 2015 General Election manifesto,<sup>45</sup> the Green Party noted the recklessness and dishonesty of the financial industry, and their role in bringing about the financial crisis and resulting austerity. They recommended a similar solution to Positive Money:

*'We believe that the time has come to recognise that the creation of currency and the control of the money supply is far too important to be left to profit-seeking private sector banks and should be brought back under the democratic control of the state. Quantitative easing was but a first step. Commercial*

The Green Party noted the recklessness and dishonesty of the financial industry, and their role in bringing about the financial crisis and resulting austerity.

*banks should be no more than the custodians of publicly created money in current accounts, and the creation of that money should become the function of a new monetary authority, independent of day-to-day government control... The change to the new system would create a new and substantial cash flow for the government, which could be spent on social and environmental priorities and assist in paying down the national debt.'*

This still represents a potentially dangerous level of centralisation, risking the misuse of money creation in the future for one reason or another. It also has overtones of Labour leader Jeremy Corbyn's 'QE for the people',<sup>46</sup> the idea that money might be created to spend on environmental and infrastructure projects such as roads, housing and the renewable power industry.<sup>47</sup> Aside from giving more financial and political power to government, this risks harming the economy, because it would send a signal that the UK is not financially healthy enough to fund these projects through other means. It would be currency debasement for political ends and have potentially serious inflationary consequences.

## The Gold/Silver Standard

Some politicians and groups have campaigned for a return to the gold standard, or something like it, including more conservative members of the US Republican Party.<sup>48</sup> They argue that this would make the dollar stronger and prevent inflation, create a more stable economy, rein in government borrowing and stop the state from growing ever more powerful.

Silver has been used as currency for thousands of years, and forms of a silver standard have been employed at various points in history

The silver standard is a variation on this idea. Silver has been used as currency for thousands of years, and forms of a silver standard have been employed at various points in history –

including for several hundred years in Britain. Old Testament laws setting an exchange rate between silver and grain were a form of 'silver standard', similar to a gold standard. Silver is more abundant than gold, meaning the money supply could more easily be expanded if necessary; a system using two or more precious metals could mitigate issues around shortage of supply of new money holding back economic growth.

Most mainstream economists believe that returning to the gold standard

would be disastrous, though their criticisms typically presuppose our debt-based financial system that cannot cope with periods of disinflation. However, others have claimed it would be possible to return to a form of the gold standard without such serious consequences.<sup>49</sup>

Alan Greenspan, former Chairman of the US Federal Reserve, once supported the gold standard.<sup>50</sup>

A gold or silver standard is vulnerable to state intervention, as with any centrally-controlled system.

A gold or silver standard is vulnerable to state intervention, as with any centrally-controlled system. The US government did so to address the problem of deflation during the Great Depression. ‘On April 5, 1933, President Franklin D. Roosevelt ordered all gold coins and certificates of denominations in excess of \$100 turned in for other money by May 1 at a set price of \$20.67 per ounce... In 1934, the government price of gold was increased to \$35 per ounce, effectively increasing the dollar value of gold on the Federal Reserve’s balance sheet by almost 70 percent. This action allowed the Federal Reserve to increase the money supply by a corresponding amount and, subsequently, led to significant price inflation.’<sup>51</sup> The bailouts of RBS and Lloyds banks were examples of such unilateral intervention in the context of our existing system (though this did not impact the value of Sterling in the same way).

Another issue with a gold or silver standard – or any commodity-based standard – is that there is no way of limiting new supply of metal through mining appropriate levels. Gold has the reputation of keeping a stable value, but its value fluctuates all the time; as a so-called ‘safe haven’ asset, its value rose from less than \$300 per oz in the early 2000s to over \$1900 in 2011 amid renewed concerns about the global economy. There are some buffers, in the sense that more metal will be mined or released from jewellery/bullion if prices rise, but intense speculation or discovery of new supply can result in rapid changes in value. In *The Ascent of Money*, Niall Ferguson writes about what happened when Spanish conquistadors flooded the market with 45,000 tons of plundered silver in the 16th-18th centuries: its purchasing power fell dramatically, causing sharp increases in the cost of living.<sup>52</sup> Any commodity standard is vulnerable to discoveries of new supplies and to technological innovation, though it is unlikely we would ever again see the kind of vast new supplies the conquistadors introduced.

These fluctuations in the supply of the commodity backing the currency will dictate the availability of credit and the growth or otherwise of the economy,

assuming no other changes take place at the same time. Then there are the problems that would arise from only one country using the gold standard while the rest of the world continues to use fiat money, including the appreciation of its currency, making exports less competitive – as happened to the UK in 1925 when the country temporarily returned to the gold standard. Against such drawbacks are the considerable advantages of having an apolitical and broadly non-inflationary monetary system.

## Asset-backed currencies

A variation on the gold or silver standard is to create currencies backed by other assets. Gold has been widely used as money and to store value for centuries, but in the 21st century there are arguably better ways to underpin a currency. In theory, almost anything could be used: other precious metals, shares, property – even state assets or future tax revenues, two solutions suggested during the recent Greek debt crisis. It would be possible to create a currency backed by a basket of diversified assets, perhaps including gold, silver,

It would be possible to create a currency backed by a basket of diversified assets.

property, exchange-traded funds (ETFs) that track major stock markets, and so on. This would reflect real-world economic conditions, and could be balanced to avoid undue exposure to any single element of the economy.

## One hundred percent reserve money

Full-reserve, or 100 percent reserve banking, as opposed to fractional reserve banking, means that banks would be required to keep all of their customers' transaction deposits in cash or central bank reserves. Customer funds would be held in accounts that paid no interest, and that were therefore essentially risk-free: the bank would hold all of this money without lending any out.

Variations on this idea have been recommended by a number of high-profile economists,<sup>53</sup> and it has seen more recent interest in the wake of the 2008 financial crisis. Although it would end the risk of bank runs, it would have far-reaching consequences, since money creation would become the sole preserve of the government, and lending would increasingly be undertaken by the unregulated and unofficial 'shadow banking' industry.



In practice, banks would have to charge current account customers for the banking services they provide on these accounts. Deposit accounts that generated a return would have to be subject to the rules that most investors take for granted – that the higher the potential gains, the higher the risk to your capital.

## Local currencies

There has been a growing movement in favour of local currencies such as the Totnes Pound, Bristol Pound, Massachusetts BerkShares and the Canadian Salt Spring Dollar, amongst others. The purpose of these currency schemes is to support their local economy, since they cannot generally be spent outside their immediate geographic area. Effectively, they work as an accounting ledger for local transactions. Local currencies may or may not be backed by the national currency, and may or may not have 100 percent equivalence. BerkShares, for example, cost \$0.95 to residents but are accepted by participating businesses and non-profits at their face value of \$1, on the grounds that the 5 percent discount for consumers increases monetary velocity and the local economic multiplier – that is, BerkShares dollars circulate more and bring greater benefit than ordinary dollars.

In some ways, local currencies are similar to loyalty systems like supermarket reward points, Frequent Flyer miles, club card points, and so on. These all aim to encourage customers and users to spend within a specific economy – in this instance within a business or network rather than a geographic area. Through partnerships with third parties they can often be redeemed against goods and services from other businesses.

There is some precedent for the idea of private money. English law sees banknotes as a form of bill of exchange – a piece of paper which circulates and is used to pay for goods and services, and that is therefore a form of currency. Historically, and in English law up until 1992, cheques were also bills of exchange. A company like Marks & Spencer could issue a cheque for £10 payable to 'Cash' or 'Bearer'. Anyone could then take this into a shop and spend it in the same way that they could spend a £10 note. In the eighteenth and nineteenth centuries, the use of cheques in this way as a private form of currency was commonplace. Cheques were acceptable provided the recipient trusted the credit of the issuer. During the 1970s when the Republic of Ireland banks were hit with long-lasting industrial disputes, cheques circulated as private monies – sometimes for months. In Greece today, post-dated cheques

are widely used as money. Business debt factoring, where invoices are sold to a third party (a ‘factor’) at a discount in return for immediate cash is another example.

## Dollarization

In countries where the local currency is prone to inflation or debasement, it is common to find US dollars circulating as an alternative form of currency. People who do not have faith in their local fiat currency prefer to receive payment in dollars because the dollars will retain their purchasing power for far longer.

Similarly, currency boards in some smaller countries or territories maintain a fixed rate between a local currency and a foreign currency, with the former backed by holdings of the latter. For example, the Falkland Islands Pound is pegged to Sterling. Many Francophone countries in West Africa used to have currency boards which pegged their currency to the French Franc. The advantage is that there are no concerns about the stability of the local currency, though the country can no longer set its own monetary policy. This is similar to a gold standard in which a currency is backed by reserves of gold.






## Cryptocurrency (digital money)

Cryptographic currencies or cryptocurrencies are new forms of online cash or digital money. Satoshi Nakamoto,<sup>54</sup> the creator of bitcoin,<sup>55</sup> the first cryptocurrency, solved the ‘double-spend problem’ – the issue that digital information can easily be copied, and that transactions can therefore be duplicated unless a trusted third party polices them. The ability to circumvent this challenge enables for the first time peer-to-peer transactions online, completely outside of the control of a central authority such as a government, bank or payment processor.<sup>56</sup>

Cryptocurrencies operate on decentralised networks of computers, with transactions being stored on a shared ledger called a blockchain. Money supplies are either static or algorithmically determined,<sup>57</sup> rather than being set by a central party. This means that ‘coins’ are of mathematically-guaranteed ‘purity’, and that inflation and seigniorage – where applicable – are both foreknown and removed from central (state) control. Instead, they are granted to those who secure the networks, along with the nominal transaction fees

charged. The fixed rules on supply effectively ensure a 100 percent reserve system and prevent the creation of debt for lending at interest.

There are potential issues that arise from using such a radically different paradigm of money. Like cash, digital money transactions are irreversible, because there is no central authority to intervene. Like cash, the relative anonymity of digital money makes it an attractive tool and target for fraud and criminal activity. Because it works on a trustless model, inflation and the relative value of a digital currency cannot be influenced by creating more of it, as central banks do with fiat money. Although in the long term the limited new supply should make it a good store of value, in the short term speculative demand can cause significant volatility – far more so than the relative value of most fiat currencies against each other.<sup>58</sup> Its comparative infancy means that usability and security remain barriers to widespread adoption. Nevertheless, the ability to create money of guaranteed quality/supply and to transact outside of state (or any centralised) control arguably make cryptocurrencies closer to the biblical ideals than most forms of money that have been developed since the invention of coinage.

		Centralised issuance <sup>59</sup>	Control over payments <sup>60</sup>
	<b>Precious metal (gold/silver bullion)</b>	No	No
	<b>Coinage</b>	Yes	No
	<b>Physical fiat money (cash)</b>	Yes	No
	<b>Electronic fiat money</b>	Yes	Yes
	<b>Cryptocurrency</b>	No	No

# Application

God is relational. He exists in perfect relationship of mutual love within the Trinity. When Jesus summarised the Law and the Prophets, he did so in terms of love, a quality of relationship (Matthew 22:34-40). Every law in the Bible seeks to govern an aspect or aspects of one or more relationships, whether with God himself or between humans. Since this concern for right relationships underpins everything in the Bible, it must also underpin our thinking as Christians around a form of money fit for use today.

We cannot claim that the forms of money found in the Bible were the ideal forms of money for all time. Their properties were bounded by the technology and circumstances of their era. For example, the fact that silver pieces were weighed out at the point of transaction is *descriptive* of biblical money, not *prescriptive* of what money *should* be. The Old Testament law assumes the use of silver as money but never requires it.

Although we cannot directly transfer principles about the nature of money from their biblical setting, we can aim to understand the ideals and characteristics that underpinned money in the biblical writers' minds, and whether these have continuing relevance for today. Below are included some areas for further discussion and consideration.

## Centralisation and state interference

Despite the operational independence of the Bank of England with regard to monetary policy, the government is still involved in setting the MPC's<sup>61</sup> inflation target, appointing its members, creating and regulating the use of money, as well as deciding levels of government debt, which affects monetary policy. How we view money in the 21st century is fundamentally determined by our approach to the role of state. In biblical teaching, all centralised power – whether political, financial or technological – is viewed as suspect due to its tendency to become abusive and coercive. A biblically-informed approach, therefore, will seek to limit the power of government over its citizens. Power is decentralised as much as possible, with decisions being taken at the lowest and most local level appropriate. This is known as the principle of Subsidiarity.

The Levites in the Old Testament period had some responsibility for regulating money by ensuring that honest weights were used, but neither they nor the

king had a mandate to create money itself. The Levites were not a part of the state apparatus, but acted as a form of accountability for the monarchy. Other standard weights for money were apparently maintained by different groups, including a 'merchants' standard' and the sanctuary shekel. Verses such as Deuteronomy 25:13-16 and Proverbs 20:10, 23 emphasise the need for a consistent standard, condemning the merchant who uses a light weight when selling and a heavy weight when buying. These passages have direct application to a government which profits from seigniorage when issuing money, and then again from its ability to push up inflation to minimise the real cost of repaying its debts.

A significant challenge is how to remove the creation of money from centralised and politicised control, whilst ensuring it remains fit for purpose for a modern economy. Further challenges lie around removing the moral hazard inherent in the way that money is created and used, as discussed below.

## Separating retail and investment banking

Since the 1980s, retail and investment banking have been closely linked. This means that when a bank suffers heavy losses due to its investment activities, this also threatens basic services like payments and account access. This structure means that banks can effectively hold taxpayers to ransom because elected governments cannot countenance funds belonging to voters and depositors in the banks being lost if the bank makes bad financial decisions. This was the situation in 2008 when loss of confidence in the value of subprime securities as collateral in the US, and contagion around the world, threatened to close a number of major banks.

Banks can effectively hold taxpayers to ransom because elected governments cannot countenance funds belonging to voters and depositors in the banks being lost.

The Bank of England is now implementing rules that will require large banks to ring-fence customer funds.<sup>62</sup> However, losses on commercial bank loans could still render a bank insolvent and put customer deposits at risk. A complete separation of retail and investment banking is necessary so that the banks can no longer hold taxpayers to ransom, but the banks are lobbying politicians vigorously to prevent this as it threatens their profit margins.

However, the separation of retail and investment banking has downsides that

customers must accept, too. Interest-bearing accounts will always have some risk attached to them. Thus, regular bank deposits and the insurance they enjoy also require reform. One way of going about this would be to bring in a system of '100 percent reserve' banking, in which no customer funds are used for other activities, but are only held for instant access. These would be fully guaranteed, but might be limited to £20,000 per person. Savings deposits that generated a return would have to share in any risk involved, and would not necessarily be instant access.

## An end to Quantitative Easing

The use of QE to prop up the economy has had serious side effects and highlights the moral hazards inherent in the centralisation of money creation. QE has contributed to an asset price bubble that has generally benefitted the already-wealthy; property owners and stock investors have seen the price of their homes and portfolios rise,<sup>63</sup> while many ordinary savers and younger workers have been heavily penalised. Inequality has risen across society. Banks have shored up their balance sheets rather than lending to local businesses, and first-time homebuyers have been priced even further out of the market.

QE has contributed to an asset price bubble that has generally benefitted the already-wealthy.

More broadly, any inflationary policy favours debtors, including the government, allowing them to reduce the real value of their nominal debts in depreciated currency. This is quite simply a conflict of interest; it is impossible to make an impartial decision when decision-makers benefit, whether politically or financially, by one outcome at their disposal. The redistribution effect of QE is a reminder of the biblical implications of money creation: that seigniorage and (unanticipated) inflation are forms of injustice and theft.

QE should therefore be wound down as soon as is reasonably possible, with income from gilts (government bonds) purchased being used to replace the new central bank reserves – destroying this money in the same way it was first created. A first step would be for the Bank of England not to replace its maturing QE gilts with further purchases in the market.

## A greater role for local, alternative and digital currencies, and continued use of cash

Money is traditionally required to serve as a means of exchange, unit of account, and a store of value. In biblical thought, it broadly fulfils these purposes, but it is also a relational tool, designed to function as a kind of social glue by strengthening relationships – or, at the very least, limiting the potential harm caused by financial instability.

It is not meant to be a tool of the powerful by which value can be unilaterally moved around, from end users to banks, governments and the already-wealthy. Neither is it centralised around a specific authority – an attribute that inherently tends to lead to unbalanced power dynamics. In fact, different monetary systems were used in parallel, as indicated by the different shekel standards recorded. Barley as well as silver was apparently used as a day-to-day currency; there was a silver-barley standard, and land – another important commodity – was valued in terms of its ability to produce grain (Leviticus 25:14-16). At other times, wealth was also measured in gold and cattle (Genesis 13:2). Ultimately, money is whatever is accepted as money and the biblical record shows some diversity of currencies and standards. The main concern is for transparency, particularly that weights should be accurate to avoid fraud.

Another obvious application is the greater decentralisation of money, not just in terms of the process used to create state-approved fiat currency, which inherently must have a degree of centralisation, but through the creation and adoption of separate currencies that gain traction as alternative means of payment. Competing monies add to convenience by reducing transactions costs, and restrain the abuse of seigniorage by any one issuer.

Local currencies such as the Bristol Pound have already paved the way for this. However, they have lacked widespread adoption due to a number of factors, including geographical limitations: they are only accepted within a given local area. They generally take the form of physical cash, since there are usually no associated banking facilities available. A similar concept is the reward points issued by many companies, which can be redeemed within their business networks but nowhere else. These are typically non-transferrable. Cryptocurrencies also offer a completely different approach, in that they are

The biblical record shows some diversity of currencies and standards. The main concern is for transparency

fully decentralised and transferrable, but have no pegged or intrinsic value, the value derived from adoption and network effects notwithstanding (that is, the value conferred by the fact that a large number of people use them as money).

It is highly likely that future applications will combine cryptocurrency protocols with loyalty schemes and other alternative currencies, as well as existing as parallel currencies in their own right. These could prove a valuable addition to the economy. Consider one possible implementation:

*Like many other corporations, Sainsbury's offer reward points in their Nectar scheme. Points are earned on purchases in Sainsbury's stores and other participating businesses, and can be redeemed as money off future in-store purchases, or against goods and services from companies including BP, Pizza Express, Argos, easyJet, Vue cinemas and Homebase. Points cannot be transferred from one customer to another.*

*However, a similar system that was based on a blockchain would enable third-party transfer and therefore trading of reward tokens. The price of a token would approximate to its real-world value, which would be the value of the goods/services for which it could be redeemed, though it would trade at some discount to this, reflecting the fact it would have less flexibility of use than regular cash. To all intents and purposes, it would be a form of private money, and could be used to pay for goods and services outside of that network of businesses. Such systems are already being created, though none have yet gained widespread adoption as a currency. It is almost inevitable that these will become more popular, though to some extent this will be dependent on the regulatory frameworks in their jurisdiction. All the same, the nature of a decentralised currency is that it cannot easily be controlled.<sup>64</sup>*

On their own terms, cryptocurrencies offer promising advantages, but also have some issues that require addressing before they will be widely adopted. Their independence from structures of power carries both benefits and risks. Concerns have been raised about fraud and money laundering, for example, because the irreversible and pseudonymous nature of bitcoin and other digital currencies make them ideal tools to keep funds out of sight and reach of the authorities. It also means that security is particularly important: if an exchange



is hacked or user's wallet compromised, it can be extremely difficult to recover the funds. Notwithstanding, the transparent nature of the blockchain could be an excellent tool for fighting corruption, since payments can be tracked to make sure they are going directly to those they are supposed to reach. Whilst there are currently some practical questions, ideologically cryptocurrencies appear to be better aligned with biblical principles than fiat money, due to their pre-determined supply and freedom from centralised interference.

These are applications that Christians should explore, not least because decentralised protocols are almost impossible to shut down and therefore such implementations are likely to arise anyway. There is also the opportunity to shape the emergence of these cutting-edge technologies and use them in ways that reflect God's will for the economy and monetary system, rather than leaving others who do not share Christian values to appropriate them.

The situation that might conceivably arise would be something like Friedrich Hayek's idea of having competing private currencies instead of a state monopoly on money creation. Currencies deemed by the market to be less trustworthy would cease to be used. A related

but slightly different proposal would be to have a limited number of parallel or complementary currencies, rather than ones that competed for supremacy against sterling, as argued by Hayek in an updated version of his thesis.<sup>65</sup>

Whilst state-backed fiat money will probably still maintain its primacy, the number of alternative currencies in all their different forms raises the prospect of an exciting grassroots and market-driven change in the way monetary arrangements are structured. At the same time, the continued existence of physical cash is a vital check on the power of the state.

Ideologically cryptocurrencies appear to be better aligned with biblical principles than fiat money, due to their pre-determined supply and freedom from centralised interference.

## Open and permissioned ledgers

A recent development is the extensive research into 'permissioned ledgers' by major financial institutions and global governments in the interests of creating digital money and using 'distributed ledger technology' (DLT) across financial services, including China, Dubai, Russia, Japan, Goldman Sachs, JP Morgan, Credit Suisse and many others. These permissioned ledgers are very similar to the open ledgers used by regular cryptocurrencies such as bitcoin, but include

a control layer that both restricts who can submit a transaction, and allows the authorised parties to reverse transactions.

This has a series of implications. The permissioned nature of the ledgers means that KYC/AML (Know Your Customer and Anti-Money Laundering) requirements are easier to meet. However, the control layer necessarily introduces vulnerabilities: where there is a gatekeeper there is a gate. Thus there are potentially security implications. A permissioned ledger is also not immutable: transactions can be changed or reversed unilaterally by the bank or government, so there cannot be full confidence in its transparency and reliability.

Perhaps the most concerning implication is the degree of power that such technology hands to already powerful banks and governments to control electronic money, and therefore to influence those who use it. Of course, banks already have the ability to reverse or block transactions, but the speed and level of oversight that permissioned ledgers enable opens the door to serious abuses. It is not hard to imagine a situation in which banking facilities are restricted for people who are marginalised in some form and dependent on state benefits, perhaps to ensure they can only spend money in certain places and on certain goods and services.

But the speed and level of oversight that permissioned ledgers enable opens the door to serious abuses.

In the UK, the Azure card given to asylum seekers already has this function.<sup>66</sup> This could be carried out by allowing transactions only with ‘whitelisted’ parties – a 21st century state variation on the Company Store of early 1900s America.<sup>67</sup> In countries like China,

which routinely exercise control over their populations by mass surveillance, such initiatives are deeply concerning. One response is to seek to further the development of open platforms that enable compliance and are suitable for the needs of modern financial institutions.

## Backed digital currencies

We have discussed the idea of a gold or silver standard above, as well as asset-backed currencies. Although the costs of moving from one system to another would be significant, new technologies give rise to the possibility of backed currencies being issued in parallel, rather than as replacements, to fiat currencies.

This could initially be trialled using a digital currency backed by reserves of silver or, alternatively, by a diversified portfolio of assets. One unit of the currency could represent one ounce of silver, held in fully insured and audited vaults. The money supply could be expanded as required, with new digital coins being issued as more silver was added to the account. These coins could then be transferred and traded on a peer-to-peer basis, in the knowledge that they would always represent one ounce of silver. They could even be redeemed for physical silver, with a fee to cover administration and shipping costs.

Keeping the supply free from state control means that there is no immediate motive for unilateral government interference, as occurred with the gold standard under Roosevelt.

Such an initiative would require confidence in the issuer, with full transparency to make sure that reserves were properly audited at regular intervals. A commercial bank might trial it, though there is no reason a reputable company might not do the same.<sup>68</sup> Keeping the supply free from state control means that there is no immediate motive for unilateral government interference, as occurred with the gold standard under Roosevelt. The adoption of such a currency, or of similar initiatives, would be a function of their perceived advantages or otherwise over existing forms of payment.

## Money without debt

At present, almost all the money people use (commercial bank money) is created hand-in-hand with debt – if all the debt was paid back, there would be little money left. It is a system that benefits commercial banks, because money creation inherently involves the charging of interest and the enjoyment of the banking spread between deposit and loan rates, thereby pulling resources out of the real economy and into the financial sector.

The alternative forms of money described above – silver/gold, cryptocurrencies, and some asset-backed currencies – can be considered forms of ‘positive money’, or money that is created without debt. But positive money is also an idea that could be extended to mainstream money. Critics have argued that the government alone should create money, spending rather than borrowing it into existence.<sup>69</sup>

In order to remove money from political control, a form of silver standard

or digital money with stable and predictable supply would be required, or a combination of the two. Current criticisms of returning to a gold or silver standard are based on the problem that it could not work in our heavily-indebted system. Debt-based systems cannot cope with falling prices, because deflation means debts become larger and unmanageable. Introducing a new form of money now with more-or-less fixed supply would mean periods of disinflation in which indebted banks and sectors such as housing might suffer heavy losses.

The first step is, therefore, to address the fundamental problem of the system being unable to exist with a falling or even stable price level over time. Once that has been achieved, it is more feasible to introduce a more just monetary system.

An intermediate arrangement between our current monetary system and a silver/digital standard might involve some or all of the following changes:

- 100 percent reserve current accounts would be established, fully state guaranteed, but capped at £20,000 per person (see above).
- Savings deposits would generate returns, but these may have lock-in periods before they can be withdrawn and could be 'bailed in' – that is, would forfeit a proportion of their balances – if the bank was deemed insolvent.
- The central bank would pre-screen pools of commercial bank loans to act as collateral in a liquidity crisis in return for rescue loans at a penal rate.<sup>70</sup>
- Banks would take measures to protect taxpayers meaningfully from the risk of bailout in a systemic crisis.<sup>71</sup>
- Asset-backed cryptocurrencies would be accepted as competing monies to the national currency, and local currencies would be allowed flexibility to innovate and offer an alternative.
- Alongside these measures, a serious attempt would be made to shift housing and corporate finance away from debt to equity (including leasehold, or rent-share contracts). Banks would eventually make their money from fee-based asset management services and operating a payments utility, rather than leverage and maturity mismatch of assets vs. liabilities.

However we might reimagine and recast money, it is not a process that will happen overnight. In the meantime, we need further constraints on the risk posed by the existing system.

## Countercyclical policy

As discussed, the creation of money is fundamentally linked to the health of the economy. In times of low growth, interest rates are reduced, meaning that banks lend to, and thereby create more money for, businesses and consumers, if they demand it. This often prompts unsustainable borrowing and investment, and when interest rates are raised again there are inevitably redundancies and defaults. As we have explored above, newly-created commercial bank money may be used for almost any purpose, including speculation, at a risk to the wider economy. At the very least, new regulation might ensure that credit was not directed towards speculation. Instead, ‘credit guidance’ could encourage new loans to be allocated to more productive ends.

The correct diagnosis for our economy is not depression: it is manic depression.

In the words of Czech economist Tomáš Sedláček, the correct diagnosis for our economy is not depression: it is manic depression. Economic growth is, of course desirable – particularly for many low-income countries. However, *constant* economic growth is not realistic. Chasing increasing GDP for its own sake is putting the cart before the horse, meaning that short-term policies are pursued at the expense of sustainable growth. A better alternative is that we should seek stability as a first priority, not as an afterthought, and growth as a by-product of responsible management of the economy. Instead of focusing on maximising GDP, our goal should be to minimise debt, so that a lack of growth does not mean collapse.<sup>72</sup>

This is currently problematic, because although the right to print money no longer belongs to politicians, they retain the prerogative to incur debt. Thus politicians can essentially force the Bank of England into a position where they may have to create more money by taking imprudent borrowing decisions. Sedláček recommends a ‘stability pact’ whereby in any given year, growth and the budget deficit together will not exceed 3 percent GDP (at 3 percent growth the budget would be balanced, and money set aside at greater levels of growth; at zero growth, borrowing may increase to 3 percent). However, such a suggestion has to be taken in the light of persistent slow growth in the

Eurozone and elsewhere; if growth remains close to zero for the next 10 to 20 years, this could result in a huge increase in debt before any improvements were felt. Although the detail of the policy would need adjusting, the principle is sound: we have sacrificed stability in pursuit of growth, and the solution is to do the reverse, selling excess growth to buy stability.<sup>73</sup>

This approach resonates deeply with the vision for trust and contentment expressed throughout the Bible, including in the Tenth Commandment, 'Do not covet', and in Jesus' warning that we cannot serve both God and money (Matthew 6:24). As 1 Timothy 6:10 warns, 'the love of money is a root of all kinds of evil. Some people, eager for money, have wandered from the faith and pierced themselves with many griefs.'

## Conclusion

There is no such thing as a perfect monetary system. What works well in one context will not necessarily be right for another. Although some forms of money might be more convenient than others, over the centuries people have used whatever best suited their purposes at the time. Money is, simply, what we collectively agree is money. However, the nature of that money has far-reaching consequences for all of us.

Biblical teaching on the ordering of society has much to say about money and the structures of power that surround it, both directly and indirectly. Its concerns for limiting concentration of power, whether financial, political or technological, are particularly relevant here. Centralisation of the money supply almost inevitably leads to its abuse in one way or another, and therefore injustice for all of us, the users of money. Many advocates of monetary reform argue for greater centralisation, demanding that the power to create money should be the sole preserve of the government. This risks even greater abuses.

The state has an important role in creating and administering at least one form of money – a function it currently grants to commercial banks, for the most part. However, this state-issued or state-sanctioned money is still an instrument of the government, whatever safeguards are put around it. A greater plurality of forms of money would guard against its misuse or failure. Biblical history and teaching displays such decentralisation: not just a 'separation of powers' that prevents the state from accumulating financial and political control; not

just distributing responsibility for the silver shekel weight across different groups (at least three standards were in use); but even to the extent of using different currencies, including gold, silver and grain of different types.

The upshot was that no one could co-opt money creation for their own ends: not the state, not merchants or businesses, not powerful individuals or foreign governments. Money was too important for the wellbeing of its users to risk the injustices that came with interference.

Social justice is core to the gospel and Christians have a duty to be at the forefront of monetary reform. Perhaps a world with money can never be perfect. But we can work to find the least imperfect version for our circumstances and honour God through how we use it. For, as Jesus himself says, 'Where your treasure is, there your heart will be also' (Matthew 6:21).

# Glossary

**Bail-in:** an alternative to a bail-out, in which external investors (such as taxpayers) rescue a borrower by providing funds to help pay for a debt. A bail-in instead forces the borrower's creditors to bear part of the burden by writing off a proportion of the debt they are owed.<sup>74</sup>

**Bitcoin:** the first true cryptocurrency or peer-to-peer digital currency. Bitcoin uses a blockchain to enable users to transfer value directly between each other online, without requiring an intermediary.<sup>75</sup>

**Blockchain:** a shared and transparent ledger of transactions maintained collectively by a network of computers.

**Cryptocurrency:** digital money based on a blockchain, including bitcoin.

**Clearing bank:** a commercial bank that is a member of a network of banks allowed to process transactions, regardless of whether the transaction originated at that bank.

**Commodity money:** money which has value because it is made from or consists of a commodity that has value – typically precious metals, but also grain, salt, tobacco, cowrie shells and many other objects throughout history.

**Debasement:** the practice of decreasing the value of a currency, generally by lowering the content of precious metals it contains.

**DLT (distributed ledger technology):** alternative term for blockchain.

**Fiat money:** money that is created (Latin fiat, 'may it be so') by government decree and given value by law, in contrast to the intrinsic value of commodity money.

**Gilts:** bonds issued by the UK government, generally considered low risk. The original certificates had gold or gilded edges.

**Local currencies:** currencies that are accepted within in defined geographic area, such as the Totnes pound or BerkShares. The idea is to stimulate a local economy by encouraging money to circulate within it.

**Open blockchain (open ledger):** a blockchain that anyone can access and that is not subject to controls, such as the bitcoin ledger.



**Permissioned ledger (permissioned blockchain):** a blockchain that includes a control layer by design, so that only approved actors can submit a transaction, and transactions may be subject to intervention.

**Representative money:** typically used to mean paper money that is backed by a commodity, and that may be redeemed for its underlying asset.

**Security:** a tradeable financial asset, including bonds, stocks and derivatives.

**Seigniorage:** the profit made by the issuer of a currency due to the difference between its face value and the costs of production.

**Subsidiarity:** organising principle derived from Catholic Social Teaching, which holds that social/political matters should be carried out by the lowest appropriate group or individual, and that responsibilities for activities should not be unnecessarily centralised.

## Further reading

‘Money in the Modern Economy’ in *Bank of England Quarterly Bulletin*, Q1 2014. <http://www.bankofengland.co.uk/publications/Documents/quarterlybulletin/2014/qb14q1prereleasemoneyintro.pdf>

Ferguson, Niall, *The Ascent of Money* (Penguin Books, 2009).

Graeber, David, *Debt: The First 5,000 Years* (Melville House, 2011).

Mills, Paul, *The Divine Economy* (*Cambridge Papers* vol. 9 no. 4, December 2000).

Mills, Paul, *Investing as a Christian: Reaping where you have not sown* (*Cambridge Papers* vol. 5 no. 2, June 1996).

Mills, Paul, ‘Finance’ in *Jubilee Manifesto* (IVP, 2005), pp. 196-215.

Sedláček, Tomáš, *The Economics of Good and Evil* (OUP, 2011).

‘The Gold Standard and Price Inflation’ in *The Regional Economist* (the Federal Reserve Bank of St. Louis, August 2014). <https://www.stlouisfed.org/On-The-Economy/2014/August/The-Gold-Standard-and-Price-Inflation>

To contact the author, please email [g.brandon@jubilee-centre.org](mailto:g.brandon@jubilee-centre.org)

# Endnotes

- 1 <http://www.ons.gov.uk/ons/rel/hpi/house-price-index/august-2015/rft-hpi-table-2.xls>
- 2 See <http://www.ons.gov.uk/ons/rel/hpi/house-price-index/august-2015/rft-hpi-table-1.xls>. The increase in house prices is due to a number of factors aside from inflation. On the demand side, households are smaller due to increased family breakdown, people marrying later and living longer. Average household size fell from 2.9 people in 1971 to around 2.3 today, and the population is larger. On the supply side, fewer new houses are being built.
- 3 <http://www.theguardian.com/news/datablog/2012/jun/27/century-income-inequality-statistics-uk>
- 4 <http://www.theguardian.com/uk-news/2014/may/15/britains-richest-1-percent-own-same-as-bottom-55-population>
- 5 <http://researchbriefings.files.parliament.uk/documents/SN05745/SN05745.pdf>
- 6 <http://themoneycharity.org.uk/money-statistics/>
- 7 See David Graeber, *Debt: The First 5,000 Years* (Melville House, 2011). The idea has been articulated by various other authors, though is not as popular as the mainstream theory. See for example Alfred Mitchell-Innes, 'What is Money?' (1913) and 'The Credit Theory of Money' (1914).
- 8 See Graeber, p. 29.
- 9 Graeber, p. 39.
- 10 There were a number of different weights in use throughout biblical times, including the talent, mina, shekel, beka, gerah, pim and kesitah, with the shekel (simply meaning 'weight') being the most common for day-to-day transactions. From the few weights found by archaeologists, it seems that a shekel was around 10 grams. However, it is likely to have had different values depending on the system and the period in which it was used. When Abraham buys a field for his wife's burial, he 'agreed to Ephron's terms and weighed out for him the price he had named in the hearing of the Hittites: four hundred shekels of silver, according to the weight current among the merchants' (Genesis 23:16), indicating an agreed standard for commerce. Exodus 30:13 refers to a shekel 'according to the sanctuary weight', whilst 2 Samuel 14:26 records a weight of 200 shekels 'by the royal standard'.
- 11 E.g. Hosea 3:2, 2 Chronicles 27:5.
- 12 The exact relationship between the three texts is not clear, since Matthew attributes the prophecy to Jeremiah, whilst the Zechariah passage fits the reference better ('Jeremiah' may be used as a shorthand term for the prophets in general here).
- 13 Source: <https://iea.org.uk/blog/inflation-is-still-a-major-problem>
- 14 See David McLroy, 'Subsidiarity and Sphere Sovereignty' in *Journal of Church & State*, no. 45 (2003), pp. 739-64.
- 15 The Great Debasement (1542-1551) saw the silver content of English coinage drop by two thirds in the course of a few years, earning Henry VIII the nickname 'Old Coppernose', because the thin silver easily rubbed off his debased copper coins, generally starting with the nose.
- 16 The explicit context here is paying taxes to a hostile and pagan government, rather than whether the state has the right of seigniorage and control over the money supply. Jesus implies that the state does have a legitimate though limited claim to our money and loyalty, so long as that does not conflict with our loyalty to God. The state has a role in upholding law and government; if a Jew possessed a Roman coin, it might be seen as legitimate to pay taxes for their participation in that system.

- 17 In Henry VIII's time, the extra money created by the Great Debasement was spent on wars and vanity projects that did not stimulate long-term prosperity, and resulted in high inflation.
- 18 Paper money goes back many hundreds of years. In the 800s AD, for example, Chinese emperor Hien Tsung introduced paper notes as a means to address a copper shortage. Since this was not backed by copper, it can be considered among the first examples of fiat money.
- 19 See Steve Hanke and Nicholas Krus, 'World Hyperinflations' in the *Routledge Handbook of Major Events in Economic History* (Routledge, 2013).
- 20 See Money in the Modern Economy. *Bank of England Quarterly Bulletin*, Q1 2014. <http://www.bankofengland.co.uk/publications/Documents/quarterlybulletin/2014/qb14q1prereleasemoneyintro.pdf>
- 21 Reserves balances for 6 April 2016 stood at £318,419 million (£318 billion) with notes in circulation £68,955 million (<http://www.bankofengland.co.uk/publications/Documents/weeklyreport/2016/0604.pdf>). Broad money or M4 totalled £2,136,560 million. Thus banknotes represent only about 3% of the total money in circulation by this measure. Immediately before the financial crisis, at the end of July 2007, reserves balances stood at £19,873 million, notes at £45,438 million and M4 totalled £1,610,760 million. The ratio of broad money to narrow money has therefore fallen from around 23:1 to less than 6:1.
- 22 See *Money Creation in the Modern Economy*. Quarterly Bulletin 2014, Q1. <http://www.bankofengland.co.uk/publications/Documents/quarterlybulletin/2014/qb14q1prereleasemoneycreation.pdf>
- 23 Jon Cunliffe, speech, 'The role of the leverage ratio and the need to monitor risks outside the regulated banking sector', July 2014. <http://www.bankofengland.co.uk/publications/Documents/speeches/2014/speech746.pdf>
- 24 Banks can also transact between themselves on the money markets, which include the interbank, CD (certificate of deposit) and repurchase agreement (repo) markets.
- 25 In addition, the central bank aims to maintain the stability and efficiency of the financial system by seeking to ensure the ability to make payments quickly and safely in the case of clearing and settlement failures within in the payment system that would otherwise affect the ability of financial counterparties to meet their payment commitments. A central bank also often acts as the lender of last resort within their payments jurisdiction, providing banks with liquidity against illiquid collateral in the case of unanticipated withdrawals during a crisis such as a bank deposit run. (Walter Bagehot's 1873 book *Lombard Street* is the textbook treatment of how this should be conducted – specifically at a high rate of interest against good securities, to avoid moral hazard. In practice, this is not always possible since such high rates would induce the failure of the institution.) They also have the ability to create more central bank money by buying assets during a recession, as discussed above.
- 26 <http://www.telegraph.co.uk/news/shopping-and-consumer-news/11619728/Cash-overtaken-by-card-and-computer-as-favourite-way-to-pay.html>
- 27 Returns on some investments are linked to inflation, such as the CPI index-linked gilts issued by the UK government. If a fixed interest rate is offered, though, inflation may or may not outpace it.
- 28 'Interest and profit' here translate two different words for interest in Hebrew, possibly referring to different ways in which a loan was structured. The two words, meaning 'bite' and 'increase' respectively, may refer to regular vs lump sum interest repayments, or to a sum of money deducted from an amount repayable before the borrower receives it vs the increased amount to be repaid on the principle. There is no evidence that 'usury' or 'excessive interest' is meant, and elsewhere in the Bible charging interest of any form is routinely forbidden.
- 29 Since the UK came off the gold standard in 1914, prices have risen approximately a hundredfold.
- 30 In August 2016 the Bank of England announced another £60 billion round of QE as a response to economic uncertainty following the Brexit vote.

- 31 See note 21 above; the ratio of broad money to narrow money has fallen from around 23:1 to 6:1 due to QE.
- 32 At present, the Bank is reinvesting the receipts it receives from maturing bonds, maintaining the stock of assets purchased with new central bank reserves at £375 billion. <http://www.bankofengland.co.uk/publications/Pages/news/2015/008.aspx>
- 33 The preceding inflationary impact may have been undesirable, but a downwards revaluation would inevitably harm yet more people.
- 34 'QE feeding Europe house price bubble, says study' in the *Financial Times*, 20 July 2015. See <http://www.ft.com/cms/s/0/739a3700-2eeb-11e5-8873-775ba7c2ea3d.html#axzz3qQx314LS>. 'How Long Can Central Bankers Ignore Bubbles?' in the *Wall Street Journal*, 24 March 2015. See <http://blogs.wsj.com/moneybeat/2015/03/24/how-long-can-central-bankers-ignore-bubbles/>
- 35 'Britain's richest 5% gained most from quantitative easing – Bank of England' in the *Guardian*, 23 August 2012. See <http://www.theguardian.com/business/2012/aug/23/britains-richest-gained-quantitative-easing-bank>
- 36 'Warning: QE is eating your pension' in *The Spectator*, 7 March 2015. See <http://new.spectator.co.uk/2015/03/warning-qe-is-eating-your-pension/>
- 37 'Scrap cash altogether, says Bank of England's chief economist' in the *Financial Times*, 18 September 2015. See <http://www.ft.com/cms/s/0/7967908e-5ded-11e5-9846-de406ccb37f2.html#axzz3uTvvpk4c>. 'Cash may no longer be king but notes and coins are here to stay, says Mark Carney' in the *Telegraph*, 23 August 2015. See <http://www.telegraph.co.uk/finance/bank-of-england/12014501/Cash-may-no-longer-be-king-but-notes-and-coins-are-here-to-stay-says-Mark-Carney.html>
- 38 The Bank for International Settlements has questioned whether negative interest rates are desirable, since they could harm banks' profitability and cause people to hoard funds in one form or another outside the banking system, which will have a deflationary effect. Businesses such as insurance companies and pension funds may also be adversely affected. Thus those nearing retirement would actually need to save more. See [http://www.bis.org/publ/qrtrpdf/r\\_qt1603e.htm](http://www.bis.org/publ/qrtrpdf/r_qt1603e.htm)
- 39 'A more radical proposal still would be to remove the ZLB [Zero Lower Bound] constraint entirely by abolishing paper currency... As well as solving the ZLB problem, it has the added advantage of taxing illicit activities undertaken using paper currency, such as drug-dealing, at source.' From 'How low can you go?' speech given by Andrew Haldane, deputy governor of the Bank of England, on 18 September 2015. <http://www.bankofengland.co.uk/publications/Documents/speeches/2015/speech840.pdf>
- 40 See Guy Brandon, 'None of your business: Privacy, Anonymity and Surveillance', October 2014. <http://www.jubilee-centre.org/none-business-privacy-anonymity-surveillance/>
- 41 As of 1 January 2016. <http://www.fscs.org.uk/what-we-cover/products/banks-building-societies/>
- 42 See Paul Mills, 'Investing as a Christian: Reaping where you have not sown' (Cambridge Papers vol. 5 no. 2, June 1996).
- 43 <http://www.cityam.com/229321/swiss-bank-worlds-first-to-charge-savers-to-park-cash>
- 44 Since the Global Financial Crisis, central banks have been empowered with so-called macroprudential tools such as countercyclical capital buffers to help mitigate such asset boom and bust cycles.
- 45 See [https://www.greenparty.org.uk/assets/files/manifesto/Green\\_Party\\_2015\\_General\\_Election\\_Manifesto\\_Searchable.pdf](https://www.greenparty.org.uk/assets/files/manifesto/Green_Party_2015_General_Election_Manifesto_Searchable.pdf)
- 46 [https://d3n8a8pro7vnm.cloudfront.net/jeremyforlabour/pages/70/attachments/original/1437556345/TheEconomyIn2020\\_JeremyCorbyn-220715.pdf?1437556345](https://d3n8a8pro7vnm.cloudfront.net/jeremyforlabour/pages/70/attachments/original/1437556345/TheEconomyIn2020_JeremyCorbyn-220715.pdf?1437556345)
- 47 This would require the UK to withdraw from the EU since we are bound by the Maastricht Treaty prohibition on monetary financing of government.
- 48 <http://www.teapartypatriots.org/monetary-policy/>

- 49 The Foundation for Economic Education is one such organisation. See <http://fee.org/freeman/how-to-return-to-the-gold-standard/>
- 50 See Alan Greenspan, 'Gold and Economic Freedom' in Ayn Rand et al., *Capitalism: The Unknown Ideal* (New American Library, 1966). <http://www.usagold.com/gildedopinion/greenspan.html>
- 51 <https://www.stlouisfed.org/On-The-Economy/2014/August/The-Gold-Standard-and-Price-Inflation>
- 52 Niall Ferguson, *The Ascent of Money* (Penguin Books, 2009), pp. 19-26.
- 53 Including Henry Simons and Irving Fisher as a response to the Great Depression in the 1930s. More recently it has been suggested by Martin Wolf.
- 54 Satoshi Nakamoto is widely believed to be a pseudonym. Ongoing speculation notwithstanding, the developer's definitive identity (or identities) is, at the time of writing, unknown. See for example <http://www.lrb.co.uk/v38/n13/andrew-ohagan/the-satoshi-affair>
- 55 The bitcoin white paper (<https://bitcoin.org/bitcoin.pdf>) was published in 2008 and implemented in 2009. Since then hundreds of cryptocurrencies have been created, most of them based on the bitcoin protocol.
- 56 The same approach to proof of ownership without a central authority can be extended to other areas such as ownership of property and stocks, contracts and so on.
- 57 For example, the supply of new bitcoins decreases by half every 4 years, and there will never be more than 21 million bitcoins in total.
- 58 Occasional large movements in the value of fiat currencies notwithstanding, such as Sterling's one-day 8% fall against the US dollar on 24 June 2016.
- 59 Whether by a state, commercial or central bank, or a combination of these.
- 60 The difference between centralised control over seigniorage and centralised control of the payment system is worth noting, since the impacts are also different.
- 61 The Monetary Policy Committee, a group of eight members plus the governor of the Bank of England.
- 62 <http://www.telegraph.co.uk/finance/newsbysector/banksandfinance/11932810/Britains-biggest-banks-to-be-forced-to-separate-retail-banks-from-investment-arms.html>
- 63 'The Distributional Effect of Asset Purchases', Bank of England, 12 July 2012. See <http://www.bankofengland.co.uk/publications/Documents/news/2012/nr073.pdf>
- 64 Such a crypto-reward token would be somewhat centralised in terms of backing, since its value would depend on the willingness of its issuing company or companies to redeem it, but decentralised in infrastructure, meaning that it could be freely transferred and traded anywhere there was an internet connection.
- 65 F. A. Hayek, *The Denationalization of Money: the argument refined* (Institute of Economic Affairs, 1978). Hayek anticipated that stable currencies would be most accepted by users, since they would not unduly favour creditors or debtors. Critics such as Milton Friedman have suggested that network effects and switching costs would make this unviable, though in practice it has not been tested extensively enough to know what the dynamics would be. Technological advances since then have reduced the transaction costs that would be associated with exchanging digital currencies.
- 66 [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/423333/azure\\_card\\_carrier\\_04\\_2015.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/423333/azure_card_carrier_04_2015.pdf)
- 67 Company stores were typically run in remote industrial communities and reviled as being restrictive, monopolistic and exploitative (perhaps none more so than in Merle Travis's song *Sixteen Tons*).
- 68 Such initiatives already exist, launched on smart contract platform Ethereum's blockchain, amongst others. See <https://dgx.io/>

- 69 This is a central strand of the Positive Money campaign. Professor Richard Werner has also argued for government-created money that is spent directly into existence. See video 'Debt Free and Interest Free Money': <https://www.youtube.com/watch?v=zlk7AFYymg>
- 70 Cf. Bagehot's *Lombard Street*, see note 25 above.
- 71 For example, banks would hold common equity of 15-20% of their assets and bring leverage down to 5-7 times.
- 72 See 'Greed is the Beginning of Everything' in Der Spiegel, 23 March 2012. <http://www.spiegel.de/international/business/spiegel-interview-with-tomas-sedlacek-greed-is-the-beginning-of-everything-a-822981-2.html>
- 73 See also Tomáš Sedláček, *The Economics of Good and Evil* (OUP, 2011).
- 74 See <http://www.economist.com/blogs/economist-explains/2013/04/economist-explains-2>
- 75 See <https://bitcoin.org/bitcoin.pdf>







