Creating Money out of Nothing: The History of an Idea

Mike King, April 2012

Abstract

In this paper I examine the idea that banks 'create money out of nothing' as a counter-orthodoxy to conventional banking theory. It has a history going back perhaps to Marx, but emerging properly with Schumpeter, repeated by von Mises, Keynes and other economists, and appearing in its modern guise in the work of Keen, Pettifor, the New Economics Foundation and a group called Positive Money. It turns out that there are two major variants of the theory, one dependent on fractional reserve banking and the other not. Because there are also hybrid theories we find that fractional reserve banking is the most common basis for the claim, and calls for its abolition generally consequent on it. I show that the idea is generally backed by poor reasoning, and unsupported by economic data. It has considerable circulation however, and I suggest that this may be because the language of 'money creation' by banks is common to both the orthodoxy and the counter-orthodoxy.

Introduction

The orthodox account of the function of banks states that they take in deposits from those who have a surplus of cash and lend it out to borrowers who pay their loans back with interest and/or a fee. By paying depositors a lower interest than they charge their borrowers, they make a profit. They also provide a range of other services which we need not discuss here. Primarily, banks lend out money that has been deposited with them, and if the bank misjudges the loans and defaults arise, then the bank may go bust, probably heralded by a 'run' on the bank as confidence in its ability to repay deposits ebbs away. My banking textbook sums up the orthodox position like this:

> By carrying out the intermediation function banks collect surplus funds from savers and allocate them to those (both people and companies) with a deficit of funds (borrowers). In doing so, they channel funds from savers to borrowers thereby increasing economic efficacy by promoting a better allocation of resources.[1]

This orthodoxy has been challenged for at least a hundred years by a range of economists, positing instead that banks 'create money out of nothing', and do not have to wait for deposits before they make loans. This theory, which I call the counter-orthodoxy, now circulates amongst its adherents as pretty much proven. In this paper I trace the history of the idea from Schumpeter (1911), through von Mises (1912), Keynes (1930), Rothbard (1983), de Soto (1988), Keen (2011), Pettifor (2006) up to what I believe to be the most recent comprehensive popular work on the subject by Ryan-Collins et al (2011). I also draw on the material of the Positive Money organisation.

The banking counter-orthodoxy matters, I believe, because after the Credit Crunch (Great Recession) banking is in the spotlight and its possible reform could shape the global economy for decades to come. If the counter-orthodoxy is true, then one set of reforms are called for, but if false, an entirely different set. Political support for reforms is influenced by the writings of economists, policy entrepreneurs and the mood and views of the general public. Hence it matters what kind of material the general public are consuming on the subject, particularly on the Internet. As an example of the genre, it is worth looking at a video on the Positive Money website which asserts the counter-orthodoxy as fact. Accompanied by professional animated graphics the presenter, Ben Dyson, makes statements such as these:

> ‘Banks do not lend to borrowers what savers have saved with them.’
>
> ‘A bank does not need to have any real money before it makes a loan to someone. It doesn’t come from somebody’s grandmother’s life savings.’
>
> ‘The money you borrowed was created out of nothing.’
>
> ‘When banks make loans, they create additional bank deposits for those that have borrowed money.’
>
> ‘The only way we as the public can get our hands on this money is to get into debt with the banks.’[2]

The counter-orthodoxy appears in unexpected places, for example in an article by Darius Guppy in *The Telegraph* in 2010.[3] In it he confidently asserts propositions just like Dyson’s, introducing a widely cited historical explanation based on the imagined activities of an early goldsmith banker. Guppy tells us that only 3% of money in circulation is ‘created by Government’. He says: ‘It is in fact the commercial banks, largely unaccountable and privately owned, that create the world’s money …’

Guppy was jailed in 1994 for his attempted £1.8 million fraud against London’s Lloyd’s insurance market as revenge for his father’s losses as one of Lloyd’s ‘names’. The opening of his article is telling: he tells us of a prisoner in an adjacent cell who had been convicted of counterfeiting Dutch guilders. The trial judge had called such activities parasitical on society because they reduced the purchasing power of honest citizens. Guppy is convinced that banks do no better. Guppy is be tempted to think that banks ‘create money out of nothing’ and so are no better than a counterfeiter of Dutch guilders, and on this reasoning assume it is perfectly honourable to defraud a bank, particularly in revenge. Guppy might be a playboy heir turned money crank, but the economists we look at here are not so easily dismissed.

We have to be careful to properly distinguish the counter-orthodoxy from the orthodoxy. Any textbook on economics or banking will state that banks ‘create money’ as part of the standard operation of the fractional reserve banking system. What is missing in the orthodox accounts are the additional words ‘out of nothing’, so it is these words or equivalent formulation that we are on the look out for. We will explore the history of the idea that private banks ‘create money out of nothing’, identifying its major variants. We will look for internal contradictions in the various theories put forward, contrast these theories with the orthodox accounts, and raise objections that the theories have to meet.

Although the story proper starts with Schumpeter, I will kick of with a passage from Marx.

Marx

In Volume III of *Capital*, chapter 29, Marx writes this passage (quoted by Ryan-Collins et al):

> With the development of interest-bearing capital and the credit system, all capital seems to double itself, and sometimes treble itself, by the various modes in which the same capital, or perhaps even the same claim on a debt, appears in different forms in different hands. The greater portion of this 'money-capital' is purely fictitious. All the deposits, with the exception of the reserve fund, are merely claims on the banker, which, however, never exist as deposits. To the extent that they serve in clearing-house transactions, they perform the function of capital for the bankers – after the latter have loaned them out. They pay one another their mutual drafts upon the non-existing deposits by balancing their mutual accounts.[4]

It may come as no surprise to find that Marx should write such sceptical things about banking, but it might be a surprise that he follows it by claiming to have found the idea in Adam Smith. Marx quotes a lengthy passage in *The Wealth of Nations* describing the movement of £1,000 of gold as loans and used in the purchase of goods. Smith says that the loans 'may be all perfectly well secured', the goods perhaps employed productively to create profit to create 'an equal value either of coin or paper.' [5] Smith has no reason to think that any of the transactions he describes are 'fictitious', whereas Marx is certain of it. But the fact that both coins and paper are circulating in this complex fashion has caused mental indigestion to great thinkers for centuries. For all of them, coins – when made of gold or silver at least – are 'real' money, while paper isn't – or at least some of it isn't. The rest of this article explores this indigestion, not in the general and vastly elaborated form that Marx was inflicted with, but through the single question: do private banks 'create money out of nothing' or don't they?

Joseph Schumpeter

Perhaps the first well-known economist to propose that banks create money out of nothing was Joseph Schumpeter in his 1911 book *The Theory of Economic Development*. Schumpeter's book is famous for developing the first serious theory of the entrepreneur. Schumpeter used the idea of an economy in equilibrium, of a 'circular flow', disturbed by the entrepreneur in pursuing an innovation that either creates new, useful goods, or new useful ways of doing things: to 'form new combinations,' as Schumpeter puts it. To start with profits are made, but, as imitators and competitors enter the scene, profits are driven down to zero and a new equilibrium is restored. (This idea of competition driving profits to zero is found in previous economic thinkers including Marx.) This leads Schumpeter to a rather bizarre claim: there is no surplus profit in the equilibrium state. Neither is there borrowing to maintain production in the circular flow.[6] What this means for the entrepreneur is that the 'productive means' for his innovation would have to be withdrawn from the circular flow, and so while his business grew, something else would have to shrink. Schumpeter of course recognises the banking orthodoxy: that money for the new means of production would come out of 'social savings', and which explanation he does not find 'totally absurd'. But he is more interested in proposing another method for obtaining the necessary loans: 'the creation of purchasing power by banks.' More precisely, he says: 'It is always a question, not of transforming purchasing power which already exists in someone's possession, but of the creation of new purchasing power *out of nothing*…' [7] (My italics.) He adds: 'The banker, therefore, is not so much primarily a middleman in the commodity "purchasing power" as a producer of this commodity.'

I think we have here the first statement of the banking counter-orthodoxy, though Schumpeter does not explain how bankers do it: there is no reference to fractional-reserve banking for example. But the statement is clear enough: banks create purchasing power 'out of nothing'.

Many economists have written whole tracts on the subject of money, which turns out to be surprisingly difficult to pin down or obtain real agreement on. However most accounts boil down to the idea that money has three functions: as a medium of exchange, as a unit of account, and as a store of value. My banking textbook adds a fourth category: 'standard of deferred payment.'[8] In contrast Ludwig Von Mises considers one definition sufficient, spelt out in a rather sarcastic passage:

> The simple statement, that money is a commodity whose economic function is to facilitate the interchange of goods and services, does not satisfy those writers who are interested rather in the accumulation of material than in the increase of knowledge. Many investigators imagine that insufficient attention is devoted to the remarkable part played by money in economic life if it is merely credited with the function of being a medium of exchange; they do not think that due regard has been paid to the significance of money until they have enumerated half a dozen further 'functions' – as if, in an economic order founded on the exchange of goods, there could be a more important function than that of the common medium of exchange.'[9]

Schumpeter makes a parallel assertion that the streams of money flowing through the economy 'are only the reflexes of the movement of goods',[10] though later on undermines the idea. In other words there exists a theory of money which suggests that money is a method of *accounting* for real-world economic activity, and that it shouldn't be considered as a 'store of wealth', or burdened with further definitions. Whether there is a contradiction here or not, Schumpeter appears to provide one of the best descriptions I have yet found for what happens if you really do 'create money out of nothing'. The newly created money (or 'credit' as Schumpeter wants to call it) placed at the disposal of the entrepreneur, gives him purchasing power alongside everyone else, despite there being no new goods or services to back the money. Schumpeter says: 'The process amounts to compressing the existing purchasing power.' He goes on to say that all forms of credit instruments can have the same function, if not backed by real assets, a conclusion shared in the banking orthodoxy. He finishes: 'When the price changes which thus become necessary are completed, any given commodities exchange for the new units of purchasing power on the same terms as for the old, only the purchasing powers now existing are all smaller than those existing before and their distribution among individuals has been shifted.'[11] In other words, the result of creating money out of nothing is inflation, and a redistribution of existing wealth. Money that is unbacked, i.e. does not refer to a real-world exchange of goods or services, crowds out money that is backed, with the result that overall the average purchasing power of money drops.

A forger of banknotes causes the same effect of course, as Guppy wants to point out. If the forger prints £100,000 worth of bank notes in a garage, and then puts them into circulation by spending them on goods, the same 'compression' of purchasing power takes place, the same inflation, as it ripples through the community, ultimately robbing everyone of a tiny fraction of their purchasing power. £100,000 in the modern British economy would not be noticed, but £350 billion might just be: this is something like the figure for the recent rounds of Quantitative Easing carried out by the Bank of England. When governments print large amounts of money inflation is the result, very modest in this case, and an actual goal of monetary policy, but dramatic when taken to extremes as under Hitler in Germany, or under Mugabe in Zimbabwe. This well-understood impact of 'creating money out of nothing' is part of the reason, I think, that the topic under discussion here is such a vexed one. When a government does it carefully it is understood as a legitimate instrument of monetary policy (unless one objects to such interventions in the first place, as in the thinking of Milton Friedman for example). When private individuals or private banks do it, it is regarded as a crime – according to conventional thinking.

Schumpeter gives us no evidence for his theory, no case studies. In fact this is true of the entire literature we shall survey here. Countless banks have gone bust in the last one hundred years. In the investigations that followed are there not descriptions of 'creating money out of nothing' as part of their downfall? However, if we confine ourselves to Schumpeter's reasoning, then, as I noted, he first puts forward the orthodox account of credit creation (lending out of previous deposits), which he concedes is 'not obviously absurd'. But he must have *some* reason therefore to dismiss it in favour of the second account – perhaps he is influenced by Marx. He may also be influenced by the known lesser propensity of Continental citizens to put their savings into banks than in the UK (Schumpeter was writing in an Austro-Hungarian context). Walter Bagehot insisted that one reason for the acceleration of industrial capitalism in Britain was the lower risk of war on British soil, and hence the greater willingness of its citizens to entrust their money to banks, building up large surpluses available for investment.[12] But ultimately it is the momentum of Schumpeter's own reasoning that must surely influence him here. He has created a model of economic activity in which profits tend to zero in the equilibrium situation. He says: 'Hence, in such an economic system there could be no great reservoirs of free purchasing power, to which one who wished to form new combinations could turn – and his own savings would only suffice in exceptional cases.'[13] Schumpeter's model demands that there are no savings, or inadequate savings: hence credit for the entrepreneur *must* be created out of nothing. The latter follows from the former. But the former is only a *model*. Bagehot's picture of banking in Britain of 1873 is of a world awash in capital seeking a return. Was it really true that Schumpeter's Austria of 1911 was that different? This is an empirical matter, clearly, but Schumpeter's model depends on it. Perhaps bankers do create money out of nothing, but a *model* of economic activity constructed by a particular economist in a particular national context, possibly influenced by Marx, does not *prove* it. Particularly if a foundational supposition of the model – perfect competition leading to zero profits – looks like having little foundation in fact. Competition in the real world is imperfect because of monopolies and oligopolies, and because, I would suggest, entrepreneurs rarely get out of bed to enter a highly competitive market to exactly duplicate what four or five oligopolies are already doing. They are more interested in creating new markets.

Ludwig von Mises

Ludwig von Mises published the German edition of *The Theory of Money and Credit* in 1912, adding further chapters in the US edition of 1953. It is in the earlier part of the work, Part Three, Chapter 15, that Mises makes his contribution to the theory of 'money out of nothing', making it almost exactly contemporaneous with the work of Schumpeter just discussed. The two were effectively classmates, and then later rivals, mostly disagreeing on the fundamentals of economics; hence it is interesting to find here almost agreement.

Von Mises' account of the creation of money by banks begins with his introduction of the term 'fiduciary media' – a money substitute not completely covered by the reservation of corresponding sums of 'money', as he says[14] By 'money' I think he means here commodity money, i.e. silver or gold coins. Banknotes are not 'money' by this reckoning (and in Mises' book we get a glimpse of how historically contested that simple term 'money' really is). Much of what von Mises says about money may be rather overtaken by modern developments, but, if 'money' is simply an accounting medium, then so are coins. Von Mises introduces a distinction between money certificates which are backed by 'money' and money certificates that are not, which he wants to call 'fiduciary money.'

In his account of 'Banks as Negotiators of Credit' his description follows the conventional orthodoxy: 'Banks borrow money in order to lend it; the difference between the rate of interest that is paid to them and the rate that they pay, less their working expenses, constitutes their profit on this kind of transaction.'[15] So far, so orthodox. He also defines a credit transaction as 'an exchange of present goods for future goods.' This kind of definition does have widespread adoption, but I am personally not keen on it: 'future goods' don't exist at the moment of the transaction. I prefer simply to call it a loan, entitling the borrower to the purchasing power given up *at that time* by the lender. But, just like Schumpeter, von Mises then introduces a second loan mechanism: 'The second group of credit transactions is characterized by the fact that in them the gain of the party who receives before he pays is balanced by no sacrifice on the part of the other party.' This could mean perhaps that the party who makes the loan creates some kind of 'unbacked' fiduciary paper which can be spent in the real world, just like the fraudulent guilders of Guppy's prison inmate. Von Mises suggests that the puzzling nature of this assertion 'constitutes a rock on which many economic theories have come to grief.' Hence he explains it again:

> In the first kind of credit transactions, what is surrendered consists of money or goods, disposal over which is a source of satisfaction and renunciation of which a source of dissatisfaction. In the credit transactions of the second group, the granter of the credit renounces for the time being the ownership of a sum of money, but this renunciation (given certain assumptions that in this case are justifiable) results for him in no reduction of satisfaction. If a creditor is able to confer a loan by issuing claims which are payable on demand, then the granting of the credit is bound up with no economic sacrifice for him. He could confer credit in this form free of charge, if we disregard the technical costs that may be involved in the issue of notes and the like.[16]

This second explanation doesn't suggest a fraud like counterfeiting: it suggests that there is a real ownership of 'backed' money which is renounced for a period without reducing the 'satisfaction' of the lender. Let us be clear as to what Von Mises is saying: a lender has 'ownership of a sum of money', the borrower goes out and spends it, but the lender is still 'satisfied'. But this makes no sense in *logic*. How can two people spend the same money? Either the terms von Mises are using have a specialist meaning that eludes me, or he himself has come to grief on the rock of monetary theory.

But whatever von Mises is saying is not quite what Schumpeter was saying. According to von Mises there is a kind of credit, which he names *commodity credit*, where existing claims to wealth, as it were, are surrendered by the lender to the borrower. Banks exist to negotiate such loans, an idea that nobody denies. But there is now a second kind of credit, which he names *circulation credit*, where the bank can grant purchasing power to a borrower without finding a lender to surrender it. Or, there is a lender who can lend the money with no reduction in their own purchasing power (which idea, as I indicated above, strikes me as an error in logic). Effectively, the outcome for the bank is the same as with Schumpeter: a loan can be granted to an entrepreneur without having to take any purchasing power out of circulation. What von Mises fails to do is to follow up on the inflation implications of such an operation, indicating perhaps that he is imagining some rather different mechanism to Schumpeter.

Von Mises notes that previous theorists have failed to spot his distinction between the two forms of credit. What he points out, perfectly reasonably, is that those in a position to issue 'money substitutes' or 'secure claims to money' in the form of bills or notes, or whatever, are also in a position to write anything they want. He says:

> The fact that is peculiar to money alone is not that mature and secure claims to money are as highly valued in commerce as the sums of money to which they refer, but rather that such claims are complete substitutes for money, and, as such, are able to fulfil all the functions of money in those markets in which their essential characteristics of maturity and security are recognized. It is this circumstance that makes it possible to issue more of this sort of substitute than the issuer is always in a position to convert. And so the fiduciary medium comes into being in addition to the money certificate.

I cannot understand why von Mises can assert this – and there is no logical flaw in this particular statement – and yet not jump up and down the next minute and cry 'fraud!' A banker quietly writing out notes or bills with no existing purchasing power behind them? Don't you get put in prison for it? Guppy's friend did.

I don't want to go much further into von Mises's theories, although they do include the first account in this sequence of fractional reserve banking. I think it is for those who would defend him to point out where I have misunderstood him, if I have. But I'll conclude with just another small quote from him on the subject of banks lending money: 'The only circumstance that is of importance here is that the loans are granted out of a fund that did not exist before the loans were granted.'[17] There can be no doubt as to what von Mises is saying.

As before, Von Mises draws on no empirical evidence to support his claims. His reasoning is different to that of Schumpeter, who, if you recall, said that banks must create money out of nothing because there are no savings. Von Mises's argument is that banks create money out of nothing *because they can*. If a bank can write a note that is backed by 'money', equally they could write a note that isn't. This is no more a proof however than Schumpeter offers. Because something *could* take place does not mean that it *does*.

John Maynard Keynes

Bertrand Russell was amused that Newton was born in the year that Galileo died and recommended this fact to those who might believe in reincarnation. I'll add: while you are at it take note that Keynes and Schumpeter were both born in the year Marx died. Whatever you make of this, I find it interesting that the next reference I can find to 'creating money out of nothing' is in Keynes's tome, *A Treatise on Money*, published in 1930. He makes only passing references to Marx, Mises or Schumpeter, but the theme is couched in vaguely familiar terms. It is worth pointing out, before looking at what Keynes had to say, that upon the publication of a scholarly refutation of the entire work by F. A. Hayek, Keynes is alleged to have airily remarked to Hayek: 'Oh never mind, I no longer believe all that.' One can imagine Hayek wanting to throttle the Englishman. It put Hayek off so thoroughly that he didn't bother to critique Keynes's later and more influential work, *The General Theory of Employment, Interest and Money*. (It fell to Hazlitt to do that.) But many people reading Keynes's *Treatise* will be unaware that Keynes repudiated it in this manner – or perhaps the story has no foundation – and so it is still worth looking at what Keynes says. It is part of the legacy as it were.

Keynes starts his discussion of bank money, typically, by creating some rather complex terms. He uses the term 'actively creating a deposit' to mean lending, and 'passively creating a deposit' to mean the taking of deposits. No wonder that Hayek, in all dignity, mentioned some difficulty in figuring out what Keynes meant! Having to continuously mentally translate such complex terms into the simple terms used by everybody else is both wearing, and leads to the suspicion that their meaning might shift over the discourse. But, naturally, behind such complex terms lies a theory, and we find that 'actively creating a deposit' rather helps us face the language used later on in declaring that banks create money out of nothing – in particular the observation that when banks lends a client money they create a deposit for them. (What else should they do exactly?)

Keynes goes on to tell us of the banker Walter Leaf who told Keynes that ‘for the banking system as a whole the initiative lies with the depositors, and that banks can lend no more than their depositors have previously entrusted them.’[18] This isn’t good enough for Keynes however, who responds: ‘But economists cannot accept this as being the commonsense which it pretends to be.’ So he turns the whole process on its head, based on the insight that borrowing customers will spend their loans, and that some of that expenditure will land up as deposits in the accounts of other customers at the same bank. ‘To the extent that this occurs,’ he says, ‘so far from actively-created deposits being the offspring of passively-created deposits, it is the other way round.’ Translation: so far from loans being the offspring of deposits, it is the other way round. If we take the era of the five major high street banks in the UK, that means that Keynes’s statement would have been roughly 20% true: when a loan is made 20% of it re-appears as deposits in the same bank and 80% of it with other banks. However, if you take the banking system as a whole, then clearly 100% of loans re-appear as deposits (as long as no cash is hoarded, or ‘filtered out’ as Keynes puts it). So Keynes imagines such a ‘closed’ banking system where all payments are made by cheque and with no cash reserves, where ‘it is evident that there is no limit to the amount of bank-money which the banks can safely create *provided they move forward in step*.’ (His italics.) He is interested in this idea perhaps because he can see that such a system would have an inherent instability: theories of instability are reckoned to be one of his major contributions to economic thought. If the banking system had such an inherent instability, then it would be up to government to stabilise it – through the actions of a central bank.

Keynes concludes the opening section of his early chapter on bank-money with this paragraph:

> I have endeavoured to say enough to show that the familiar controversy as to how and by whom bank-deposits are ‘created’ is a somewhat unreal one. There can be no doubt that, in the most convenient of language all deposits are ‘created’ by the bank holding them. *It is certainly not the case that the banks are limited to that kind of deposit, for the creation of which it is necessary that depositors should come on their own initiative bringing cash or cheques.* But it is equally clear that the rate at which an individual bank creates deposits on its own initiative is subject to certain rules and limitations; – it must keep step with the other banks and cannot raise its own deposits relatively to the total deposits out of proportion to its quota of the banking business of the country. Finally, the ‘pace’ common to all Member Banks is governed by the aggregate of their reserve-resources.[19] (My italics.)

Keynes, like Schumpeter and von Mises, is convinced that banks don’t need depositors bringing cash or cheques on their own initiative to create loans. His reasoning, such as it is, is different again to the other two. In Keynes’s case his argument is that lending money to one customer produces deposits in the account of another, and if you take the banking system as a whole, every cent that is loaned here lands up as a cent deposited there; therefore loans create deposits. Logically this may be the weakest argument yet: it describes a chicken-and-egg situation, and chooses the cause and effect to travel in one direction: from loan to deposit. The point of the chicken-and-egg situation is that neither choice has any logical necessity: causality could just as well flow from deposit to loan. Of course, no real-world evidence is put forward again, and the entire argument seems indeed to have lost sight of a world in which real economic activity takes place, the movement of money being its reflex perhaps, as Schumpeter put it before he abandoned the idea. However Keynes makes a contribution to the counter-orthodoxy here: he suggests that there is a limit to the amount of money that banks can 'create out of nothing' – it must do so in step with other banks, and the process is governed by the total reserves. What he means by that is not clear, but at least he indicates there might be natural bounds to the process. (Otherwise why not create as many trillions as you care for?)

Perhaps this theory was part of what Keynes had occasion to inform Hayek that he no longer believed in. As far as I can tell it plays no part in his *The General Theory of Employment, Interest and Money*. But it plays its part in the history of the idea of money 'created out of nothing'.

Murray N. Rothbard

What we find in Rothbard's *The Mystery of Banking* (1983) is a substantial polemic against fractional reserve banking and its capacity to 'create money out of nothing'. Indeed the preface to a recent edition opens with these lines: 'Although first published 25 years ago, Murray Rothbard's *The Mystery of Banking* continues to be the only book that clearly and concisely explains the modern fractional reserve banking system, its origins, and its devastating effects on the lives of every man, woman, and child.' If banks create money out of nothing, i.e. 'fake' money, it would be true that when the loan is returned to them as 'real' money, this would be effectively stolen from the good citizens of the country. If that were so it would indeed have 'devastating effects on the lives of every man, woman, and child'. But Rothbard has to *prove* it first, before we demand a halt to this alleged form of devastation. Interestingly the hyperinflation in Zimbabwe is mentioned in the preface as one example of this devastation – one that cannot be denied, but which I have pointed out is the result of its *government* printing money, not private banks. However, the issue of governments printing money and private banks creating money out of nothing are clearly related, so let us look at Rothbard's thesis.

He starts by introducing the term 'money supply', a term not used by the earlier economist we looked at, and suggests:

> One confusing implication of including checking deposits as a part of the money supply is that banks create money, that they are, in a sense, money-creating factories. But don't banks simply channel the savings we lend to them and relend them to productive investors or to borrowing consumers? Yet, if banks take our savings and lend them out, how can they create money? How can their liabilities become part of the money supply? [20]

He is posing two theories again: either banks simply lend out money deposited with them, or they actually create the stuff. Early chapters in his book deal with the origins of money, and issues of prices and inflation. In chapter six he comes to 'loan banking'. He says 'Most people think of banks as institutions which channel their savings into productive loans and investments. Loan banking is essentially that healthy and productive process in operation.'[21] In my research into this matter I find universal approval for that form of banking which take the savings of one set of customers and lend them to another set. Rothbard calls it 'a productive, noninflationary institution.' So far so good. But Rothbard now turns to what he calls 'deposit banking', deploring that people use the same word 'banking' for both types. Deposit banking in its origins functioned as a safe-deposit box would today: it is a place where you keep your gold safe. The customer receives a deposit receipt, and could demand the deposit back at any time. The banker charged a fee for this service. In time however the deposit receipts began to act as money: rather than go to the deposit box, retrieve the money and give it to someone, you could just as easily give them the deposit receipt. It came to be preferred even: a piece of paper is easier to carry around. Almost all accounts of the emergence of modern banking from goldsmith bankers tell some story like this. Oddly, Rothbard commends the original form of deposit banking as also 'eminently productive and noninflationary.' Noninflationary it might be, but in fact it is highly unproductive: money stored in this way is *hoarded*, and not available for investment. Any society that did this on a large scale would find economic growth impossible. Rothbard suggests that the accounting system for these deposits is different from that in 'loan banking'. He terms this kind of deposit a *bailment*, not a loan, and points out that any theft of deposits is highly visible: the deposit box is empty. But where the deposits are fungible (indistinguishable from each other) and all mixed in – as for example in a grain silo to which many small farmers add their produce – the temptation for a subtle form of theft creeps in.[22]

This is Rothbard's lead-in to the subject of fractional-reserve banking. A warehouseman with a silo of mixed-up grain might notice that only a fraction of the grain is redeemed at any one time, so that the rest is available to him for loan or speculation. It is the same, so the story goes, for the goldsmith banker: he need only keep a fraction of the gold on deposit in his vaults, enough to cover the likely rate of redemption. Rothbard takes the story one more step: you don't need to loan out the gold or the grain: you can print counterfeit deposit receipts and loan those out, earning interest on them. This is a repeat of von Mises's idea: because you can write genuine deposit receipts, you can also write fraudulent deposit receipts; because it is possible it necessarily happens. Rothbard tells us that this should be a matter of bailment law – a subject we will return to in the work of de Soto – and which should prohibit fractional reserve banking. Here is his account of how goldsmith bankers fell into the temptation of fraud:

> The English goldsmiths discovered and fell prey to this temptation in a very short time, in fact by the end of the Civil War. So eager were they to make profits in this basically fraudulent enterprise, that they even offered to pay interest to depositors so that they could then 'lend out' the money. The 'lending out,' however, was duplicitous, since the depositors, possessing their warehouse receipts, were under the impression that their money was safe in the goldsmiths' vaults, and so exchanged them as equivalent to gold. Thus, gold in the goldsmiths' vaults was covered by two or more receipts. A genuine receipt originated in an actual deposit of gold stored in the vaults, while counterfeit ones, masquerading as genuine receipts, had been printed and loaned out by

> goldsmiths and were now floating around the country as surrogates for the same ounces of gold.[23]

There are countless variations on this story in print and circulating on the internet. The key point is that the depositor of the gold has a receipt for the gold, which is acceptable as money, and that either (a) the gold also goes into circulation as money, or (b) additional receipts are written out which go into circulation as money, or (c) both of these. The same original money is now falsely circulating twice over – or more times even.[24]

Rothbard now returns to his distinction between the 'deposit banker' and the 'loan banker': the former has fraudulently become the latter. In modern banking when customers make a deposit, their assumption may be that the money is in the bank, untouched, for safekeeping. No longer: the bank lends most of it out, keeping only sufficient total reserves to cover the likely demands. The depositor has a receipt for the money which can be used at any time; the borrower has use of it as a loan, so in effect the same money is circulating twice. This is Rothbard's view, and he goes so far as to accuse it of being a Ponzi scheme. He insists that only one hundred percent reserve banking is honest; all fractional reserve banking is dishonest. It is at the same time fraudulent and inflationary – here repeating Schumpeter's observation. Rothbard drives the point home:

> Where did the money come from? It came – and this is the most important single thing to know about modern banking – it came out of thin air. Commercial banks – that is, fractional reserve banks – create money out of thin air. Essentially they do it in the same way as counterfeiters. Counterfeiters, too, create money out of thin air by printing something masquerading as money or as a warehouse receipt for money. In this way, they fraudulently extract resources from the public, from the people who have genuinely earned their money. In the same way, fractional reserve banks counterfeit warehouse receipts for money, which then circulate as equivalent to money among the public. There is one exception to the equivalence: The law fails to treat the receipts as counterfeit.[25]

Where Rothbard now echoes Schumpeter is in producing a description of how the 'fake' money ripples out into the community causing inflation along the way: I think however it is Rothbard's own invention, and it accurately describes any process whereby fake money enters circulation. But is the money produced by fractional reserve banking fake? Rothbard is absolutely clear in his allegation. Much hinges on this question, because Rothbard now claims that the infamous business cycle is down to the fake money produced by fractional reserve banking.

Rothbard presents a much more complex argument than Schumpeter, von Mises, or Keynes for his theory. But at least we have here a mechanism we can investigate, one that is part of the orthodox description of banking practice. Fractional reserve banking, everyone agrees, is how modern banking works. What Rothbard and his successors have to demonstrate that there is *fraud* involved.

Unfortunately for Rothbard he gets rather carried away in the example he uses to explain the process. Immediately after declaring that fractional reserve banking is a Ponzi scheme he asks us to imagine the 'Rothbard Bank' with a deposit of $50,000 of gold coin then issuing $80,000 of what he calls ‘fraudulent warehouse receipts’. He shows how this would be recorded in standard double-entry bookkeeping, where the $80,000 is loaned out to a borrower. On the asset side of the balance sheet there is gold coin worth $50,000, plus an IOU from the borrower for the loaned $80,000, making a total of $130,000. On the liabilities side of the balance sheet are warehouse receipts for $130,000 made up of the receipt given to the depositor for $50,000 of gold coin plus the warehouse receipt to the borrower for $80,000. The account balances, but it represents a fraud. We could note that the ‘warehouse receipt’ given to the borrower to spend in Rothbard’s scenario is the equivalent of von Mises’s ‘fiduciary money’. Whatever term is used, it is clear that suspicion hovers over it.

There is a massive problem with Rothbard’s illustration, however. In his enthusiasm to make a point he went overboard with the amount loaned out: in the conventional meaning of the term ‘fractional’ in fractional reserve banking it means a number less than one, e.g. two-thirds or nine-tenths (in China at the moment it is over one-fifth: very high). Indeed most orthodox illustrations of fractional reserve banking use the example of nine-tenths as the fraction loaned out, one-tenth remaining as the reserve, because the maths is easy. But in Rothbard’s example more than the original deposit is loaned out: the fraction now being 13/5 or 2.6. It can’t possibly be described as a ‘fraction’. A better term for what he is describing would be ‘negative reserve banking’ – where a bank loans out more than its deposits. His illustration in the form of a table is unfortunately labelled ‘fractional reserve banking’ – and so he muddies the waters from the start.

This should not put us off however: we just have two versions of ‘money out of nothing’ to consider instead of one: firstly, fractional reserve banking – which all orthodox accounts agree exists – and secondly ‘negative reserve banking’ – which no orthodox account agrees on. I think this distinction is crucial because without it people are arguing at cross purposes. Let us examine Rothbard’s claim in two parts then, with a few illustrations of my own for clarification.

Let us say that I deposit £100 in my bank, and the bank, on a 10% fractional reserve basis, lends £90 of it out. It is perfectly true that the bank doesn’t make this clear, and that some people might be surprised to learn of such a practice. However, all conventional accounts agree that this is a fact, so we don’t need to argue about it. It is the *implication* that is argued about. Von Mises and Rothbard are declaring that my £100 is deposited on a ‘bailment’ basis and that I have not ‘renounced immediate disposal over the utility it commands.’ Therefore my £100 is still in circulation as money and at the same time the £90 of it loaned out is also in circulation. £90 has been fraudulently added to the money supply.

It is here that the reasoning of Mises and Rothbard is open to challenge. According to them, if I had said to the bank: ‘please invest £90 of my £100,’ then no fraud takes place and nothing is added to the money supply. If, on the other hand, I omit to say that then fraud has taken place and £90 is added to the money supply. The difference, allegedly, is in the type of account: in the first instance it is a ‘demand’ or ‘current’ or ‘checking’ account, and in the second type it is an ‘investment’ or ‘deposit’ account – though terminology varies here from author to author. In the first case I can spend that money any time I want, and in the second case I commit it for a period. Unfortunately for Mises and Rothbard, even in 1930 Keynes was able to point in his *A Treatise on*

Money that such accounts are hard to distinguish in practice. He says: 'In Great Britain the old-fashioned distinction between deposit-accounts and current-accounts, namely that the former earn interest but the latter do not, is fast becoming blurred; for increasingly banks allow interest on the average of a customer's current-account in excess of an agreed minimum…'[26] In fact the Bank of England today does make the distinction in its statistics, but the point here is that *customers* are not clear about the difference.

Still, this is not quite a demonstration of an error in reasoning on Rothbard's part. His point is that I still have my £100 because I can write a cheque on it at any time, or in today's electronic world I can use my debit card, or make payments electronically out of that £100. So my £100 is 'circulating', along with the £90 loaned to someone else. Again, I shall have recourse to Keynes of 1930 to point out the obvious: 'borrowing customers generally borrow with the intention of paying away at once the deposits thus created in their favour, whereas the depositing customers often have no such intention.'[27] Keynes's point, which I agree with, is that I deposited the £100 in the bank *because I did not wish to spend it immediately*. Even if I spent it five minutes later, five days later, or five years later the same point applies, particularly with the speed of modern electronic banking. Whatever the period during which I left it unspent it was *withdrawn from circulation for that period*. The £90 that was immediately spent by the borrower went into circulation *instead* – though only if, as Keynes suggested, it was spent immediately. What the bank has to professionally judge is the average length of time depositors such as myself leave their money untouched, and make time-based loans on that basis. (I learn from my banking textbook that this is a matter of 'size transformation' – taking many tiny deposits and transforming them into larger loans – and 'maturity transformation' – taking many short-term deposits and averaging them into long term loans.[28]) It doesn't matter whether I withdraw it five minutes later or five years later because over the average of a million customers like myself vast sums of money are placed out of circulation for periods long enough to loan the principal out and have that principal repaid with interest. At least, so the banking orthodoxy goes.

This returns us to the point I made earlier about hoarding. When gold or any other money substitute is placed in a bank it is in that moment at least hoarded, that is taken out of circulation. On average a substantial proportion of such money deposits is not spent immediately. If 100% reserve banking were practiced that would be the end of the story: trillions of dollars withheld from circulation – a vast reduction in the 'money supply' with all our cash in *bailment* (to use Rothbard's term). But, by the practice of fractional reserve banking, the bulk of it is returned to circulation. Far from pumping up the money supply, we are talking about restoring it merely to some large fraction – between 75% and 99% – of what was withdrawn. Or to use rather inelegant terms: fractional reserve banking dis-bails or dis-hoards the bulk of customer deposits.

Now, I would concede that I still have not shown the flaw in Rothbard's reasoning about fractional reserve banking in *his terms*. I have used the word 'hoarding' where he uses the word 'bailment' and I have insisted that what is meant by the term is the same, and that any form of deposit by a customer results in money withdrawn from circulation. I will wait however until we consider the work of de Soto before showing how the method of reasoning on fractional reserve banking used by Rothbard (and many others) is unsound.

Let us turn instead to the second of Rothbard's claims – tangled up with the first, but necessarily a claim of a different order. He is saying, like Schumpeter, Keynes and Mises, that banks lend *more* money than they have on deposit, rather than some fraction. Confusingly, he claims that this is a result of fractional reserve banking – clearly it cannot be. I have suggested that we call it 'negative reserve banking' to better reflect what is being claimed. Here he is not claiming that of my £100 I deposit in my bank, £90 is now fraudulently 'also circulating'. He is claiming, using the proportions in his illustration, that a sum of £260 is fraudulently 'also circulating' (using his 13/5 ratio, or 2.6 times my £100). I don't really see what this £260 has to do with my deposit, or what it has to do with fractional reserve banking. I also don't see why he chose this figure – why not £260 trillion? If the banks can invent £260 why not vastly more? Whatever the figure, this claim is simply on par with Mises's claim, that because banks can theoretically do it they actually in practice do it. No evidence is put forward. Here there is little to argue, because no mechanism is proposed, or, if we are to believe that fractional reserve banking is the mechanism, then clearly Rothbard has made a logical error that refutes his case instantly.

Jesús Huerta de Soto

Jesús Huerta de Soto's book *Money, Bank Credit, and Economic Cycles* (1988) is a direct continuation of the themes in Rothbard's *The Mystery of Banking*. De Soto's work focuses on the legal implications of deposits that are not properly hoarded as bailment, but are loaned by banks under the fractional reserve system. This is not directly of interest here, though if the 'money out of nothing' theory were to be correct, then de Soto would be right to argue for changes in the law.

Once again de Soto is keen to support banks when they act as 'true financial intermediaries' following proper financial principles – we might say when they act as investment houses – but to excoriate them for fractional reserve banking.[29] His exposition, he says, 'will bring to light the damaging, unforeseen consequences that follow from the fact that, in violation of these principles, bankers have been permitted to make self-interested use of demand deposits.' As with Rothbard, he then carefully takes us through the double-entry bookkeeping of a legitimate banking operation, taking what he calls a 'loan' from a customer. If I give my £100 cash as a 'loan' to the bank, and it in turn lends it out, then that is legitimate according to de Soto. On the other hand a 'deposit', as defined by de Soto – the archetype of which might be gold bars placed in a safe-deposit box – denies *availability* of its spending power to the banker.[30] My £100 is not to be touched by the banker. The accounting method used should also be different: it should be recorded in what he calls 'memorandum accounts' for information only, and not in the asset/liability style of double-entry bookkeeping.

The issue clearly keeps returning to the alleged deceit over the availability of the deposit made by the customer with the bank. In the 'loan' to the bank I allegedly relinquish availability, whereas in the 'deposit' I don't. De Soto makes an interesting point here, that continental and Anglo-Saxon accounting systems differ in how they reveal or cover up the alleged deceit by banks in using ‘deposits’ for their own purposes (lending out). I don’t think the details are important for us here, but it flags up again the importance of the accounting method as a likely source of confusion.

Where de Soto improves on Rothbard’s account is that he properly sticks to *fractional* reserve banking. His illustration of the ‘deceit’ of banking starts with a customer deposit of $1,000,000 of which the bank lends out $900,000, and keeping 10% as a reserve. (De Soto used ‘monetary units’ in his illustration, but I have changed them to dollars for convenience.) The fraction here is 0.9 – Rothbard’s ‘fraction’ of 2.6 muddied the waters as we saw. But de Soto’s criticism of fractional reserve banking still rests on a single assertion, made by countless others, that the original sum and the fraction of it lent out are *both available*. In this case $900,000 is ‘created out of nothing’. According to de Soto the client who made the deposit ‘still has $1,000,000 in cash as if the money were physically “in his possession,” since according to his contract it remains fully available to him.’ [31]

To illustrate this let us imagine that the client is an arms dealer with a million dollars in gold coins, who deposits it with a bank, and then immediately draws a cheque on his account to buy a yacht. Let us also say that the bank lends out $900,000 of the original deposit to a client who spends it on a marginally smaller yacht. In this closed system there clearly has been fraud: real-world goods have been bought almost twice over with the same hard cash. But, I would argue, the single-bank-single-client scenario used here is not that helpful. A million customers might deposit a total of a billion dollars in a single bank, which lends out nine-tenths of it. Our arms dealer might withdraw his deposit immediately – and quite often deposits are made for very short periods as money travels round the system – but *on average* the bank’s clients leave their money for a much longer period. I have to admit that it was through reading Bagehot’s *Lombard Street* that my feeling about this was reinforced: that the world of industrial capitalism actually produces vast surpluses of cash seeking a return, and that the bulk of it is deposited for long periods. In economic terms it simply means that the average citizen effectively produces more than they consume.

Legally, de Soto may be right. Perhaps our ‘contracts’ with banks are dubious. Perhaps the bank’s right to use our money in this way should be legally challenged. But the fact that the arms dealer has made a deposit that is always available to him and he chooses to spend it immediately does not change the fact that on average people leave money in the bank – just as Keynes pointed out – for periods of time. I would suggest that such money is taken out of circulation, ‘hoarded’, or ‘bailed’ for periods of time on *aggregate*, and that the bank simply sends the bulk of it back into circulation – ‘dis-hoarding’ it. The yacht scenario doesn’t exist: the money is not spent twice over. And that is thanks to the skill of banks (in pursuing the techniques they call size transformation, maturity transformation and risk transformation) – and their honesty. If they are unskilful or dishonest they go bust, though the vexed question of ‘moral hazard’ always remains in the modern system.

De Soto insists with regard to the hypothetical $1,000,000 deposit (he uses ‘monetary units’ instead of dollars): ‘We say there are 1,900,000 m.u. because different economic agents *subjectively believe* they have at their disposal 1,900,000 m.u. to exchange in the market, and money consists of all generally-accepted mediums of exchange.’ (My italics.) Two yachts, he is saying, can be bought for roughly the price of one: it is fraud. I insist that his single-bank-single-client *reasoning* is wrong, whatever the subjective beliefs of the agents are. I suggest instead that in fractional reserve banking aggregate customer deposits take marginally more out of circulation than the aggregate subsequent loans put back.

De Soto's argument progresses however to what can only be called absurdities. Perhaps from a legal point of view his starting point is valid but it lands up with extraordinary claims. For example, because ordinary deposits, having no proper legal basis as money I wish to hoard, also has no 'term' – the period over which I loan it to the bank. From this he deduces that 'the banker may with good reason consider it a "loan" he will never have to return, since it ultimately lacks a term.'[32] De Soto continues: 'then rather than a loan, we are dealing with a *de facto* gift the banker gives himself and charges to the funds of his depositors.' He concludes: '…under ordinary circumstances what the bank actually does is to *create from nothing* a perennial source of financing which the banker supposes he will never have to return.' (My italics.) Sure, if I never withdraw my deposit, it stays in the bank: though as far as I know this does actually have a special status under law. But 'a perennial source of financing'? Where are the statistics to back this up? On the one hand de Soto insists that the money deposited by the arms dealer would allow both him and another client to purchase yachts of nearly equal value, while on the other he denies that the arms dealer ever spends his money.

I'll leave do Soto with one more development of his theme: he posits that those who borrow money may not spend all of it, so that some proportion of it remains in the deposit account created specifically for the loan. He calls this proportion 'k' in his calculations, and, by setting it at 0.2 in a new illustration he now conjures up the possibility that even with a reserve ratio of 10% a bank could land up with *more* than the original \$1,000,000 – to be precise, \$1,097,560.[33] This is because the new loans are effected by making deposits for the borrowers (on the single bank model at least), and what they don't spend is 'recycled' as it were on the usual basis: made available to another borrower. He now declares that banks do everything in their power to increase 'k' – something I can't quite imagine.[34] However, clearly, as 'k' rises, the opportunities to lend the unspent money – again – create new profits from the interest so gained. What de Soto does with his 'k' is show that within a single bank, even with a 10% reserve, it is possible to create (just) over 100% of the original deposits as 'new money'.

Where de Soto is an advance on Rothbard is in avoiding what I have called 'negative reserve banking'. De Soto does not believe, it seems, that bankers simply write fraudulent paper (or in today's electronic banking tap in fraudulent digits into an account). Instead he points to the mechanism of fractional reserve banking for creating 'new' money, and this allows us to examine his argument more carefully. There is always confusion over terminology of course: he adopts von Mises's term 'fiduciary media' to apply to the 'new' money created by the fractional reserve system, whereas von Mises used it for purely fraudulent paper. [35]

That said, the consequence of fractional-reserve banking for de Soto are grave: it is culpable, amongst other things, for the dreadful impact of the business cycle – in its downturn that is. But I want to leave him here: clearly if banks do create money out of nothing then they defraud us as surely as the counterfeiter in a garage. But downturns, recessions and depressions? If fractional reserve banking creates money out of nothing, there is nothing cyclical in it: just a relentless inflation. And does that mean in periods of low inflation that the fractional reserve system is in abeyance?

Ann Pettifor

Ann Pettifor is best known for her leadership of a worldwide campaign to cancel approximately $100 billion of debts owed by the poorest nations – Jubilee 2000. She is also remarkable for being one of very few economic commentators who predicted the credit crunch, first in an edited collection for the New Economics Foundation (NEF) and then in more detail in *The Coming First World Debt Crisis* (2006), which I shall examine here. While there is a great deal to admire in her work, it turns out that *The Coming First World Debt Crisis* hinges quite centrally on the 'money out of nothing' thesis. Pettifor's work is a good example where the truth or falsity of this thesis could affect attitudes to debt, and even the policies of governments who take her work seriously. Although the book deals with the prospects of a looming credit crunch and the devastation it would cause – remarkably prescient for its time – the thesis of 'money out of nothing' is placed at its centre. I think much of what she has to say would stand without it, but not all.

In the opening sections there are various hints that debt is created partly by the fact that banks can create loans out of nothing, but it is in chapter two that Pettifor delivers a detailed version of the thesis now familiar to us. She starts effectively with a composite of the assertions we have examined to date, from Schumpeter to de Soto, though she draws on only some of those sources. In her words: 'This chapter sets out to explain simply, how costly, debt-creating money is generated by private banks; and how all but short-term interest rates are determined by the private sector.'[36] Pettifor begins by challenging the idea of money as a store of value – because the coin in one's pocket is a barren asset. 'Interest on money *must come from some other source or process*,' she says. This is the flaw for those who borrow it, but the source of gain for those who lend it, because they can 'extract *additional* assets from borrowers and the planet.' I think we are already confused here about the nature of money (money can only create additional assets when it is invested), but let us see where it leads.

For a start Pettifor is convinced that bank money 'does not necessarily correspond to any economic activity.'[37] This is a central problem to our discussion, clearly. But put even more starkly she insists: 'Bank money does not exist *as a result* of economic activity. Instead, bank money *creates* economic activity.' Or this: '*The money for a bank loan does not exist until we, the customers, apply for credit.*' (All these italics are hers.) Her theory for how this money is created out of nothing goes like this: when I ask my bank for a £100 loan it grants it, but does not itself have the funds to enable me to go out and spend it: instead it goes to the central bank for it. Actually, not quite: my bank only asks for the notes and coins that I withdraw, not for any spending I do electronically or by cheque. The latter kind of money is 'intangible' – perhaps von Mises's 'fiduciary money'?

Pettifor's theories are several steps more complicated than de Soto's, and even Rothbard's (with his confusion between fractional reserve banking and negative reserve banking). I have so far brought in the idea of a single-bank-single-client model as a poor basis for understanding banking, and even a single-bank-multiple-client model only takes us a little further. The multiple-bank-multiple-client model now has to be considered with a final complication: the central bank. To properly consider Pettifor's theories we would have include all of this, because she says: '*Because the central bank provides cash on demand, there is therefore no limit to the cash, bank money or credit that can be created by commercial banks*.'

Leaving aside the exact mechanism for what she asserts for a moment, what it implies for her is that money is created at will by banks, and lent to people who need to borrow it *at interest*. For her this is 'expensive' money, as opposed to money lent at no interest. In some ways this is an understandable approach from Pettifor because she is primarily concerned with the crippling debt-servicing interest paid by developing countries, and also by individuals who borrow, for example by taking out a mortgage. If only 'money creation' were taken out of the hand of private banks, and restored as the sole privilege of government through its central bank then it would not have to carry any interest, except perhaps a very modest fee for setting up the arrangement. Elsewhere in the book Pettifor gives an interesting history of usury and how all the Western religions have condemned it in some form or other. It is indeed an interesting and pertinent subject, but if Pettifor is wrong about 'creating money out of nothing' then it rather blunts her polemic on what is truly scandalous: the absolute insistence in some contexts that the borrower takes all the risk and not the lender. Pettifor's work is timely because the issue of usury, default, debt forgiveness and the 'jubilee' is thrown into stark relief in a recession – but we do need clarity of thought about it.

We saw with Schumpeter, Keynes and von Mises that 'money out of nothing' was an assertion with little rational justification and no empirical evidence to base it on. With Rothbard we were dealing with a slightly garbled version of the fractional reserve banking system, while with de Soto an admirably clear exposition. It was not too difficult to suggest flaws in his reasoning or interpretation. With Pettifor a greatly increased complexity of argument has to be dealt with to see if there are any flaws in premises, reasoning or interpretation. In fact it turns out to be a summary of the lengthier exposition in the work of Ryan-Collins et al which we will examine a little later. Here I'll take just a short section from her chapter on the subject, titled 'Fixing the price of money: interest as a social construct',[38] and see if there are obvious flaws in its reasoning. Her opening sentence is: 'The rate of interest is effectively, the price of bank money,' and goes on to say that this is set by the central bank. Remember that her objection is that 'bank money' should be free because it costs nothing to create it, and that high interest rates put people – and countries – into debt. One might want to point out that the Credit Crunch came after a long period of very low interest rates set by the central banks, which actually led to cheap borrowing for ordinary people, but let us leave that for now. Pettifor is explaining how the central bank controls interest rates: through its sole power to issue notes and coins. For Pettifor, notes and coins are 'cash', while the intangible money in banks is 'credit'. Because bank 'credit' – the intangible stuff – is 34 times in volume of proper cash, private banks, which are not allowed to manufacture 'cash', have to obtain it from the central bank. Once they have done this they can then manufacture 34 times that amount in 'credit'.

In her account, in order to obtain central bank cash a private bank has to exchange it for assets such as Treasury bills or bonds. The central bank returns these assets after two weeks, say, charging 5% interest on them: in other words it is a collateralised loan. It is the 5% which then controls the interest that the private banks then charge. Because the customers on average only want £1 in £22 in cash (it was 1 in 34 earlier on, but the principle applies) the bank can loan out £22m for every £1m it borrows in that two weeks from the central bank. The £22m is money that the bank creates out of nothing, but, here is Pettifor's real gripe: they can charge customers interest on the £22m rather than on just the £1m they borrowed from the central bank.

Pettifor doesn't say however that this process is fraudulent. It doesn't on the surface seem to have anything to do with fractional reserve banking or the kind of fraud that de Soto alleges: the dual circulation of the same original money. Her objection is simply that it makes borrowing money more expensive than it should be. The interest charged is too high, or shouldn't exist at all, and anyway it is a 'social construct' in the first place.

For Schumpeter the orthodox account cannot be true because there are no savings in the first place; there are no depositors. Now, this can be empirically ascertained: are there vast savings placed in banks waiting to earn interest or not? I suggest there are, and any examination of banks' balance sheets will show that. But Pettifor has persuaded herself, and wants to persuade us, that either depositors don't exist, or that they are nasty people who want to charge us interest for the privilege of using some of their spare cash. We move on now to a story she uses to illustrate her views: it is of a mythical medieval village where a chicken-farmer wants to expand her business and needs something called 'capital'.[39] Banks haven't yet invented money out of nothing, so the chicken-farmer would have to approach the local elite, a powerful landlord or warlord, and offer high interest, and possibly other 'favours'. In modern times things are different, says Pettifor: 'The invention of bank money – money that did not depend on existing economic activity, but *created* economic activity – meant that borrowers could end their dependency on the *already-rich*.' She calls this the *democratisation* of credit.

If Schumpeter, von Mises, Keynes, Rothbard and de Soto are correct – in their various different ways – then Pettifor is onto something. But if the orthodox account, which sadly tells us that banks get their money from the *already-rich* only by paying them interest, and that has to be charged to the borrower with additional interest to pay for the banking service, is true, then Pettifor cannot also be correct. One or other of these accounts is mistaken.

Steve Keen

Steve Keen is an Australian 'post-Keynesian' economist whose work *Debunking Economics* is both an account of the Credit Crunch and a sustained polemic alleging that conventional economics fails to incorporate theories of instability into its thinking. Like Pettifor, Keen is one of a small handful of economists who predicted the Credit Crunch, and also, like Pettifor, he is interested in the issue of debt, arguing at one point regarding a likely permanent recession: 'There is a simple, but confrontational, way to stop this process: a unilateral write-off of debt.'[40] He considers himself to be in a line of economic thinkers that stretches from Marx, through Schumpeter, Keynes, and in particular Hyman Minsky, and derives a critique of conventional accounts of the Great Depression from their work. In particular the ‘financial instability hypothesis’ of Minsky is relevant.

About two-thirds through his book Keen declares his agreement with Schumpeter:

> The key insight about the role of debt in a capitalist society was provided by Schumpeter: in a growing economy, the increase in debt funds more economic activity than could be funded by the sale of existing goods and services alone: ‘in real life total credit must be greater than it could be if there were only fully covered credit. The credit structure projects not only beyond the existing gold basis, but also beyond the existing commodity basis’.[41]

Keen’s quote is from the Schumpeter work cited earlier, p. 101. In checking my edition of the book I found I had pencilled in a footnote: ‘I can’t accept this.’ I gave my reason earlier: the world then, and now, is awash with capital seeking a return, as an empirical fact that any economist could surely check on. But who am I to say? I’ll confine myself here to summarising Keen’s version of the ‘creating money out of nothing’ theory. For Keen, as for Pettifor, it changes completely the meaning of ‘debt’. Rather than one person’s debt being another person’s asset as is the common rejoinder from those who accept the orthodox account of banking, debt is now created by banks, and it is this that causes a recession or depression. But is Keen serious? We have to say yes, because he reinforces this thesis at length.

Following from the quote above, Keen says, still drawing on Schumpeter: ‘First, the expansion of credit must come, not from someone’s savings being transferred to another person via a loan – which is the conventional model of how banks operate – but by the banking sector creating new money and credit “out of nothing”’. Keen is as clear as you can get here. But what, as an advance from Schumpeter and the other proponents of this theory, does Keen add to the possible mechanisms, explanations and proof for this theory?

His starting point is that neoclassical economics never properly modelled the role of money in the economy. Instead Keen is interested to construct ‘monetary models of capitalism built on the melded vision of Marx, Schumpeter, Keynes and Minsky.’[42] He goes from there to describe theories of ‘endogenous money’ put forward by post-Keynesian thinkers, which are not that clear on the specifics of how money might be created out of nothing, or where exactly in the system this takes place (other than ‘in banks’). But what Keen then stumbles into is the role of double-entry bookkeeping in bank accounts, allowing him to derive ‘dynamic monetary models of capitalism’. Here is Keen’s explanation of how ‘endogenous’ money works:

> The fact that these promises by banks to pay [cheques] are accepted as money in their own right is what makes it possible for banks to expand the money supply by creating a new loan. The new loan creates a debt between the borrower and the bank and it also creates additional spending power. It’s this capacity to create ‘money out of nothing’ which state policies like Reserve Requirements and Basel rules attempted to control, but the empirical evidence shown in the last chapter shows that these control mechanisms have failed: the banks create as much new money as they can get away with, because, fundamentally, banks create profit by creating debt.[43]

This is a version of von Mises' argument: because banks *can* do it, they *do* do it. But it also explains an issue that dogs the 'money out of nothing' theory: why should there be any limit to it? Keen's answer, like Keynes', is that reserve requirement regulations and Basel rules, although they are a largely a failure, perhaps place a limit to this fraud. Not that Keen calls it a fraud, oddly, and in this he is with Pettifor. Nor, like Pettifor, does he acknowledge Schumpeter's clear explanation of the subsequent inflation that printing money causes, which would require an explanation of whether periods of low inflation mean that 'money out of nothing' is in abeyance. But Keen introduces a worrying element into the story: 'creating money out of nothing' may be a practice impossible to empirically verify because the banking sector has perfected ways of evading any auditing that would show this up. Or rather he claims the corollary: that he has proved through 'empirical evidence' that 'control mechanisms' have failed – a claim bordering on conspiracy theory. (Note that I won't pursue the idea of 'endogenous' and 'exogenous' money any further here because the terms have been used to describe wildly different things, and probably deserve a history as lengthy as the one here of 'creating money out of nothing'.)

We have to ask now if Keen's 'money out of nothing' is a pure 'printing' exercise as it were, carried by commercial banks (the Schumpeter version), or whether it has something to do with fractional reserve banking as well (perhaps like Rothbard). It looks like the latter in fact. Keen devotes some pages to what he calls 'The mythical Money Multiplier'. He illustrates it with my favourite numbers, though in dollars: $100 deposited in a bank where the reserve is set at 10% results in an 'additional' $90 loaned out and appearing as a deposit in another account. The process progresses, and after ten iterations there are $1000 of loans and $100 reserve in the bank. This is a classic account, straight out of any textbook on the subject, but Keen insists that 'as a model of how money is actually created, it is "neat, plausible, and wrong."'[44] What Keen says next echoes Pettifor: banks don't need reserves to make loans; they make the loan and then find the reserve. He adds: 'In contrast to the Money Multiplier fantasy of bank managers who are unable to lend until they receive more deposits, the real-world practicality of banking was that the time delay between deposits and reserves meant that the direction of causation flowed, not from reserves to loans, but from loans to reserves.' This is Keynes's reversal of causality.

Keen is writing now about America, so when a bank has run out of reserves to lend from it finds more reserves from the Federal Reserve, the central bank of America. He believes that the Fed has effectively no choice but to provide any amount the bankers ask for. Is this true? I took a look at the Fed's figures for the total reserves it holds for depository institutions (the commercial banks) which it publishes on a monthly basis, and for the total borrowings from the Fed in that month. Here are figures just for the month of May (a month chosen at random) between 2004 and 2011, along with the percentage that the borrowings represent of reserves:

Date	$m total reserves	$m borrowed	Borrowed as percentage of reserves
May-01	38,888	213	0.547726805
May-02	39,116	112	0.286327845
May-03	40,986	55	0.134192163
May-04	45,353	112	0.24695169
May-05	45,918	139	0.302713533
May-06	44,993	175	0.388949392
May-07	43,155	103	0.238674545
Average percentage of borrowing			**0.306505139**

(Figures taken from Federal Reserve statistical table H3 'Aggregate Reserves of Depository Institutions and the Monetary Base')

We see that the figures for May during the years 2001 to 2007 show that the average loan to the banks was around 0.3% of reserves. Not shown are figures indicating that in September 2001 after the 9/11 attacks there was a spike in borrowing for that month of 5.8%, and in November 2008 at the height of the American rescue programme for the banks borrowing from the Federal Reserve reached an astonishing 114%. However, if I have collated and interpreted these figures correctly, then US banks in *normal times* never borrowed more than 0.3% more than their reserves – an insignificant figure, and one which quite contradicts Keen's thesis. On these figures if a bank has hit its minimum reserve figure, the last thing it can do is go on a loan spree: at best it can borrow 0.3% more than its reserves, which themselves may represent between 1% and 10% of its existing loans. At best then an increase of 0.3% of 10% of a bank's total loans is an insignificant loan facility from the Fed. On these figures bank loans made from actual deposits are three thousand three hundred and thirty three times as big as those made from borrowing reserves. Also, we should note that the money from the Federal Reserve is *borrowed at interest*. It's not free money. But something is so dramatically out of proportion here that either I have misunderstood the Fed's figures or I have misunderstood what Keen is saying.

Keen however insists:

> Banks, which have the reserves needed to back the loans they have previously made, extend new loans, *which create new deposits simultaneously*. If this then generates a need for new reserves, and the Federal Reserve refuses to supply them, then it would force banks to recall old or newly issued loans, and cause a 'credit crunch.' (Keen's italics.)

Perhaps I have misunderstood Keen: perhaps he doesn't mean that new loans are created by obtaining them from the Fed. He has now includes a conditional into his reasoning: '*If* this then generates a need for new reserves…' (my italics.) And indeed, if a bank can create money out of nothing, why should it need reserves? But I anyway think that the logic of the above extract is back to front. In the orthodox account we firstly say that loans are not 'backed' by reserves: they arise from deposits. Reserves are a small part of deposits (or bank capital) held back from lending and are there to iron out fluctuations in the balance sheet. Secondly, and crucially, the 'new deposits' created by loans is just accounting – as we shall see. Thirdly it is clear that the Federal Reserve does not supply the banks with any significant amount of reserves – in fact it is the banks that supply the Fed with reserves, and those arise from…deposits. At least, that is the orthodox view, which is rather born out by the figures in the table above, though again, I may have made a mistake with them.

When Keen italicised the phrase ‘*which create new deposits simultaneously*’, referring to what happens when a bank makes a loan, he is repeating a widely-made accusation. Indeed the typical believer in ‘creating money out of nothing’ often starts by announcing this fact in a conspiratorial tone, as if this was a revelation. And it is here that double-entry bookkeeping comes in. Rothbard spends some time explaining it, but it is in de Soto’s account that we have perhaps the clearest insight as to the problem it creates for *thinking* about fractional reserve banking.

It’s worth mentioning that Keen has had a lively debate with the Nobel-prize winning economist Paul Krugman, who characterises Keen’s ‘creating money out of nothing’ as ‘banking mysticism’. In turn Keen is highly critical of Krugman on a range of issues. However, only one of them can be right on this one: it’s either a fact or it’s mysticism.

Ryan-Collins et al and the New Economics Foundation

The most recent book-length treatment of the ‘creating money out of nothing’ theory appears to be *Where Does Money Come From?: A Guide to the UK Monetary and Banking System* by Ryan-Collins et al and published by the New Economics Foundation (NEF). The theory seems to be a doctrine central to the NEF and their work. Pettifor tells us that a report by James Robertson, co-founder of the NEF, led to a UK government minister denying the ‘creating money out of nothing’ claim in that report.[45] Clearly the NEF is keen to persuade government of the truth of the thesis, and to suggest suitable reforms. In *Where Does Money Come From?* the authors state the idea that ‘banks create money out of nothing’ at the beginning, repeat it a dozen or so times through the book, and conclude with it. This message also appears to be endorsed in the foreword by a Professor Emeritus of Banking and Finance at the London School of Economics. So, what is added in this book to the composite account so far, which version do the authors subscribe to, and on which if any of our sources do they draw on?

The book begins by telling us that the conventional account of what banks do is to take money from savers and lend it to borrowers. ‘This is not at all how it works,’ the authors then pronounce, going on to declare: ‘Banks do not need to wait for a customer to deposit money before they can make a new loan to someone else. In fact exactly the opposite: *the making of a loan creates a new deposit in the customer’s account*.’[46] I have added the italics, to reinforce how this idea seems to be central to the theory. The authors say, shortly after the above statement, that banks hold just £1.25 in reserves for every £100 issued as credit. But they say nothing about what deposits are made for every £100 loaned. Indeed the subject of deposits rather disappears from the book, as they do in most of these accounts.

Part of the problem of the presentation in the book is the repeated use of language to suggest that money is ‘created’ or ‘supplied’ or ‘allocated’ by private banks, and the implication that they are allocated in the wrong way. The opening overview ends with this question: ‘Of all the possible alternative ways in which we could create new money and allocate purchasing power, is this really the best?'[47] The very language used, of 'allocating' money rather than 'earning' it rather undermines the idea that entitlement to money, unless you are forcibly unemployed, disabled, very young, sick, pregnant, or very old, is normally earned by *working* for it. But Ryan-Collins et al use the idea of 'allocation' throughout the book; for example on page 9 they reiterate the key question posed in the book as: 'How is money created and allocated in the UK?' It's leading language.

The source of their ideas is hinted at in references to Keynes, Schumpeter and de Soto here and there, but I can't help feeling that for all these thinkers the method of double-entry bookkeeping used by accountants – and of course banks – is the original source of their hypothesis-making. Ryan-Collins et al say for example 'As will be discussed below, when banks do what is commonly (and somewhat incorrectly) called "lend money" or "extend loans", they simply credit the borrower's deposit account and thus pretend that the borrowers have made deposits.'[48] To build their argument Ryan-Collins et al have to show that textbook explanations are wrong, in particular the 'multiplier' model of fractional reserve banking. They say: 'Many undergraduates use a "multiplier" model of banking to explain how the 2.6 per cent of money that is cash is "multiplied" up to create the 97.4 per cent that is simply liabilities of banks (i.e. numbers in bank accounts).' (Actually, I don't think that this is how the multiplier model is taught, but leave that aside.)

Firstly, Ryan-Collins et al say, the conventional 'multiplier' model implies that banks 'cannot start lending without first having money deposited with them.' Secondly, they say, the model suggests that by altering the required reserve ratio governments can control the money supply. Thirdly, they say, the model suggests a limitation to the money 'multiplied' in fractional reserve banking, as the usual diagram implies. How then do Ryan-Collins et al disprove these conventional assumptions implicit in the 'multiplier' model? The first assumption is already declared by them to be wrong, as we have seen, though proof has not yet been forthcoming. The second is open to reasonable doubt – neither the Bank of England nor the Federal Reserve set required reserve ratios any more, though that might not invalidate the model. The third point – regarding a limit to 'money creation' – is left hanging for now, as the authors launch into an explanation of 'How money is actually created' (section 1.8). However this just says that the amount created is down to the confidence of the banks – the mechanism is left for chapter three.

Ryan-Collins et al are concerned about the role of the state in defining money,[49] which leads them to the origins of fractional reserve banking in goldsmith bankers. They state that one of the key financial innovations leading to modern banking is: 'the practice, by the custodians and exchangers of precious metals and coinage, of issuing deposit receipts to a value greater than the value of deposits the custodians actually possessed – a practice that would later be described as **fractional reserve banking**.' (Bold in their text.) [50] It is in this section on fractional reserve banking that the authors quote the passage from Marx about fictitious capital. They then elaborate: 'By lending at interest through fractional reserve banking, the revenue stream can rise exponentially, without the provision of goods or services to anyone, and hence without further costs. … The bank has not paid any equivalent interest to any saver in order to create the loan…'[51] The paper trail of fractional reserve banking suggests a mind-boggling multiplication of 'money'; Ryan-Collins et al have colourfully suggested that it is ‘exponential’ (actually in mathematical terms it’s asymptotic). Eyes pop at the fantastic possibilities for making money out of nothing. But is it true? Is it money that multiplies, or merely the accounting of it?

In chapter three the real argument begins, and centres initially around different kinds of money, including the standard definitions of M0, M1, M2 and so on. But, given the shifting nature of these definitions, Ryan-Collins et al decide that it is easier to explain how it is ‘created’ than what it is exactly. They say: ‘The process of defining money becomes easier when we focus on the question of how and when new money is created. Then definitional problems become irrelevant.’[52] Unfortunately the revelation we have been waiting for is nothing more than the statement iterated many times so far: ‘Thus new commercial bank money enters circulation when people spend the credit that has been granted to them by banks.’ One cannot argue with anything in that statement except the ‘new’. The orthodox account tells us that this is not new money, but money on loan from depositors. The onus is on Ryan-Collins et al to prove that it isn’t, which so far they have not done.

Ryan-Collins et al then press their argument by discussing double entry bookkeeping and T-accounts, just as are found in Rothbard and de Soto. But their argument adds nothing to these earlier ones, just a reiteration of the basic belief that bank loans do not come out of existing deposits: ‘It is not spending power that has been taken out of someone else’s savings.’[53] We have heard this statement countless times in this essay, starting with Schumpeter, but so far it is mere opinion: there has not been a single piece of proof yet offered. What Ryan-Collins et al do instead is provide an account of how the commercial banks in the UK interact with the Bank of England as a central bank, clearing through it, and borrowing reserves – all of which is consistent with what the Bank of England states in its Red Book. But they introduce a very odd statement now: ‘Commercial bank money outside the closed loop, however, can be created at will by banks and is destroyed when customers repay their loans.’ The ‘closed loop’ they refer to is the Real Time Gross Settlement System (RTGS), the interbank clearing system run by the Bank of England (though in practice it seems to be outsourced to several commercially run operations). The money supply could increase, they suggest, ‘if all the banks “move in step” and all create new loans…’ as Keynes argued.[54] Apparently the key to the process is that banks can lend out money they don’t have *by obtaining reserves from the central bank*, the Bank of England in this case.

Ryan-Collins et al demonstrate this through an example of Barclays making a loan of £10,000 to a Mrs Jones.[55] Rather than lend it out of existing deposits, they decide to ‘create it out of nothing.’ Hence the question is asked: how much of this £10,000 will have to be central bank money, reserves and cash? To obtain the reserves and cash it could ‘sell some of its liquid assets (government securities) on the money markets, replenishing its stocks of central bank reserves when it receives payment, from other banks, for the assets it sold.’ By how much though? It turns out that it will need 1/37th in cash (coins and notes), which comes to £270 and 1/15th to boost its reserves (at the current recommended reserve ratio), which comes to £67. ‘So out of the total of £10,000, the bank accesses just £937 of additional central bank money.’ Note that it does this by selling an asset and by borrowing the additional reserves on the interbank market. Of the £10,000 in the new loan, Barclays have had to find so far £937 of ‘real money’. The claim is that the remaining £9,063 is what is ‘created out of nothing’.

Let us take this seriously for the moment and imagine that Mrs Jones is borrowing this money for a year at 6% interest. If Barclays had taken it from a depositor they might have to pay 3% interest so the bank would only make 3% profit on the deal. By creating 90% of the loan 'out of nothing' they only have to pay interest on 10% of it, that part of the money effectively borrowed from the central bank. This covers the *motivation* of the bank: it's more profitable than lending out deposits. This idea is also at the heart of Pettifor's accusation, that banks make money 'expensive' through this subterfuge.

What about the figures though? If the banks really do only have to find around 10% of the loan they are planning and invent the rest, what about that 'real' 10% they have to obtain from the central bank? We saw that in normal times the Federal Reserve lends about 0.3% of the banks' total reserves in any given month, this money being paid back – as far as I understand – within two weeks. Is that the lending that provides the 10% sought here? Ryan-Collins et al. claim that on the back of those new reserves they can lend out ten times as much: but that still gives us a figure for this new lending of only 3% of reserves. So, if my figures apply to the UK, or to banking in general in normal times, then the loan output of the banking sector using 'money created out of nothing' is around 3% of its reserves, or one thirty-third. But its reserves, as stated by Ryan-Collins et al., are one fifteenth of its deposits, meaning that it can lend out from its deposits ('real money' this time) fifteen times its reserves. On that basis the 'money from deposits' loan system is nearly *five hundred* times as great the 'money out of nothing' loan system, in normal times at least. For the two systems to produce an equal yield of loans, the percentage of reserves borrowed from the central bank would have to be around 150% - a figure only approached in November 2008 when the US government was pumping billions into the stricken banking system.

My argument here depends on two things: that borrowing from the central bank in normal times is on average 0.3% of reserves, or some similarly low figure, and that the fraction of a bank loan that is 'real' and not 'created out of nothing' is borrowed from the central bank, and amounts to 10% or similar figure of the total. Perhaps the figure of 0.3% is wrong: perhaps private banks borrow far more from the central bank. But these figures for the British banking sector for 2004 suggest something else: by Bank of England figures it seems that total sight deposits and time deposits in British banks were around £1.5 trillion – with total sterling deposits over £1.8 trillion. 'Ordinary' loans to individuals and firms were around £1.2 trillion.[56] Don't these figures suggest that deposits are the source of loans? If banks 'created money out of nothing' on any significant scale, wouldn't that show up as loans *far exceeding* deposits?

In all the accounts of 'money created out of nothing' I have not found a single set of *figures* to back up the theory. Conventional lending out of deposits takes place, and generates loans worth fifteen times the reserve figure, using a typical reserve ratio of 1/15th. I don't think this is disputed. But why don't Ryan-Collins et al. tell us how much in *additional* loans is generated by their proposed mechanism? All they have to do, for the banking system as a whole, is to provide a figure for the additional reserves they borrow, and multiply that by roughly ten (using their calculations). Clearly, to even match the conventional 'lending from deposits' banks would have to borrow fifteen times their reserves from the central bank. I am suggesting that the figure is more like a mere 0.3% of their reserves, based on the Fed's figures.

Leaving that argument to one side for the moment, let us return to the example they give of Mrs Jones, as it throws up yet more problems. Say that Mrs Jones spends her Barclay's loan on house improvements, all, apart from the £270 in cash, through a single firm, which happens to bank at a different bank, the NatWest. The firm deposits Mrs Jones' cheque for £9,730 with the NatWest, which puts it through the RTGS, where it is immediately deducted from the reserves of Barclays. Far from this 'created money' of Barclays Bank remaining *outside* the 'closed loop' of the RTGS, it enters straight into it. If Barclays were to 'create money' running into the billions it would wipe out its reserves very fast through this very mechanism: it's 'money created out of nothing' would quickly become real debts, and insolvency would loom.

This is where I fail to understand the theory of Ryan-Collins et al. For their 'creating money out of nothing' to work they have explicitly stated that such money would have to circulate outside of what they call the 'closed loop' of the RTGS bank clearing system. Yet, unless Mrs Jones' building firm also banks with Barclay's, the 'created money' they lend her immediately enters the closed loop and would have to be debited from Barclay's reserves. Of course, if she immediately repaid her loan with real money obtained elsewhere, that would be fine: her real money would replenish the reserves. But in general if one lends on a massive scale, the numerous borrowers behave in aggregate as Keynes said: they borrow to spend immediately and they repay later. In contrast, the firms they spend their money with will deposit their cheques immediately. On aggregate, then, a large scale 'creating money out of nothing' by one bank would cause it massive problems at clearing…if it didn't have real deposits to draw on of course.

But what if, drawing on the other idea of Keynes, all the banks pursued this strategy 'in step'? How could that work? Perhaps Barclays could tag loans 'created out of nothing' electronically to distinguish them from loans created out of real money (deposits), so that at clearing, in our example, the Natwest bank didn't charge the builders' £9,730 against Barclay's reserves – just somehow forgot about it? The problem there is that the building firm has deposited what it regards as real money with the Natwest, and will spend the £9,730 with customers of yet other banks. That money would also have to be tagged as 'created out of nothing'. So a second parallel system would be required to run through all the banks and clearing to flag up money 'created out of nothing' as opposed to real money that originated with real deposits.

Electronically, anything is possible. But legally? I have met software engineers who work on these systems: surely there would be a whistle-blower amongst them who would report a software specification requiring one set of algorithms for real money and another for fake money? This would also require the connivance of the Bank of England and the clearing services. After all the Bank of England reserves the right to itself to create 'money out of nothing', known formally as Quantitative Easing. Why would it grant it to the commercial banks – that is allow a two-tier system of clearing involving both real money and 'money out of nothing'? Money out of nothing creates inflation: controlling that by QE or its reverse is the Bank of England's prerogative, not the commercial banks. But I am merely speculating here: it would be up to Ryan-Collins et al to explain how two kinds of money can reach clearing and be dealt with separately, or how Mrs Jones' loan – as it circulates into the real economy and out again – could avoid being charged against the original bank's reserves at clearing, or whether some entirely different mechanism is at play. The essence of the problem is this: 'money out of nothing' – fake money if you will – will always get exchanged with real money when put into circulation, just like the fake bank notes of the garage forger. How then can the original bank extract the fake money from circulation and 'destroy it' as alleged? Let us say that banks can put out a substantial amount of 'money out of nothing' as loans – billions or trillions of pounds – into circulation along with the real stuff, and also remove the same amount by 'destroying' the same amount in an equilibrium situation. The latter operation would attract as much interest from the accountants, surely, as the former, but probably far more, because it is all mixed up by that time with real money. The garage forger has none of these problems: the minute the fake notes are exchanged for real ones he retires to the Costa del Sol. Eventually the Bank of England destroys the fake notes for him, most convenient, and we as the general public swallow our losses. This points to another puzzle: why don't Ryan-Collins et al raise the parallel of the garage forger where more right-wing economists don't hesitate? Where Guppy doesn't hesitate?

I think I have now identified the mechanism by which Ryan-Collins et al propose that 'creating money out of nothing' actually works, and have suggested some possible logical problems with it. In their book the theory is presented everywhere as a fact without any statistics to back it up. In their conclusions they then make a series of further claims about the implications of their theory, for example 'As we have seen, in the UK it is commercial banks that create new money, and not the government.'[57] This apparently is a bad thing. Or: 'It is the ability of banks to create new money, independently of the state, which gives rise to capitalism and makes it distinctive.'[58] I find this absurd: capitalism and its distinctiveness arise just as easily in the orthodox account which says that *existing* surpluses (deposits) are invested for a return. The version that Ryan-Collins et al presents, if true, would be normal capitalism plus an additional mechanism for inflation: just as if there were normal capitalism plus a flourishing money counterfeiting industry.

Positive Money

Our historical tour of 'money out of nothing' theories concludes where it started: with the material on the Positive Money website. In the 'Who Are We' section it says: 'Positive Money is run by a team of 3 full-timers who coordinate the campaign, supported by a team of skilled and dedicated volunteers based in our small London office and across the country. We have 4 directors.'[59] Ben Dyson, a graduate in Development Economics, appears to be a key member of the organisation, which argues for significant changes in the banking and monetary system. Andrew Jackson, another of the team, is co-author of the book just discussed, *Where Does Money Come From?* In the 'What We Want' section of Positive Money website the authors state: 'The key flaw in our current banking system is that **almost all money is now created by private banks as debt**. … The fact that banks are able to create money – the numbers in your bank account – whenever they make new loans means that they have a profit-driven incentive to create far more money than the economy needs, pushing the cost of housing out of reach of most ordinary people.' They conclude: 'Positive Money is an attempt to make the confusing world of money much simpler, so that we can discuss the fundamental changes that need to be made.' In other words the aim of the organisation is educational: to explain the general public how money works. More than that, they propose a simple solution to the problem: *full reserve banking*.

First, let us briefly examine their theory of how banks create money, to see what it adds to the general picture. Their theory is basically the one we have just examined with a few twists. The basic idea is that cash in the form of coins and notes issued by the Bank of England is 'real' money, but unfortunately makes up only 3% of the total money supply (figures I have seen suggest that it is in fact a much smaller percentage). Bank of England reserves are electronic but also okay, because they are 'created' under government control, but unfortunately ordinary people can't get their hands on this proper stuff. Instead they have to make do with the money that commercial banks create – placing us in their power. Nothing new in this.

Positive Money's describes the operation of Bank of England reserves on their webpage titled 'How banks create money: The balance sheets'.[60] We are told that reserves are formed when commercial banks sells an asset under the 'repo' system in exchange for reserves. They give an example where the RBS sells £10,000 of gilts to the Bank of England, stating: 'The Bank of England's balance sheet has "expanded" by £10,000, and £10,000 of new *central bank reserves* have been created, effectively out of nothing, in order to pay for the £10,000 in gilts.' (Their italics.) This is a bizarre way to describe the transaction, and I think it arises out of an inability to accept the very nature of the *loan*. Who is borrowing what from whom, on what security? In the first instance central bank reserves arise when banks transfer a proportion of their assets to the central bank. In the days of Lombard Street a commercial bank would deposit some of its commercial paper with the Bank of England as a reserve because it was clear by then that this collective action was an insurance policy against a run on any single bank. An employee would physically take a piece of paper down the road to the Bank of England (then a privately owned company), and a clerk would write a receipt for it. Now it's done electronically. But the essential idea here is that the commercial bank loans its assets to the central bank to build up a reserve. The central bank does not 'create' them, and certainly does not 'create them out of nothing'. But the language used in the accounting of the transaction may well cause the problems in comprehension. Marx was as puzzled about this as anybody: whose reserves are these exactly? The commercial bank's or the central bank's?

> Just as everything in this credit system is doubled and trebled and transformed into a mere phantom of the imagination, so it is with the 'reserve fund,' where one would at last hope to grasp on to something solid.[61]

I see the problem here as one of accounting: when commercial banks transfer assets to the central bank the paperwork multiplies. But the money doesn't. Marx was confused by it; so it appears are others. Positive Money then adds: 'NB: While the above creation of currency occurred using a repo transaction, the central bank could also lend RBS the reserves…' In this case the loan is in the other direction. Nothing is 'created' in this situation either. As the Bank of England states in the Red Book:

> The Bank provides liquidity insurance to the banking system through indexed long-term repo operations. In these operations, the Bank is willing to *lend* funds

> against both the narrow collateral set accepted in operations for monetary purposes and a second, wider collateral set, that consists of high-quality securities, including private sector securities.[62] (My emphasis.)

But in any case, this is all okay, according to Positive Money, because the *central bank* 'created' this reserve, not the private bank. But if a private bank lends money to a customer then the private bank 'creates money', which is a bad thing. Why? Because, as they say: 'A bank does not "lend money" – to lend one must have money to lend in the first place. In reality a bank creates credit – money – when it advances loans.' Again, there is nothing new in any of this, perhaps only the language has become yet more abstracted from reality: how can you possibly assert that banks don't have money 'in the first place'?

But something new does now follows. In the next example we work through the stages of a loan of £10,000 to a bank customer who spends it on a car. There is nothing controversial in it at all: the money is taken either in cash or spent electronically at the car dealership, which deposits it at another bank, and an interbank transfer takes place – described as the movement of reserves at the Bank of England – so that the original bank is debited. The customer repays the loan with interest. The language is odd, but familiar: the bank 'creates' the money in the first place, and when the loan is repaid it 'destroys' the money. In fact this is the first time in this literature that we find an account of how exactly money is 'destroyed'. Why use 'create' and 'destroy' to describe the lending of money and its repayment? But no matter. The issue here is where the assets behind the loan come from – because in this example they actually come from somewhere. Not, of course, depositors: they don't exist in this world. *The asset comes from the bank's shareholders*. We now have an entirely new story! It is shareholder equity that creates the £10,000 reserve at the central bank that would allow either (a) the customer to withdraw £10,000 in cash, or (b) allow the lending bank to transfer the money electronically to the dealership from which the car is bought. The 10% interest on the loan is profit, used to pay staff and shareholder dividends.

Now we only have one thing that contradicts the orthodoxy: the proposition that banks pay loans out of shareholder equity. According to Positive Money the shareholder puts money into the bank, it is lent out at 10%, and that profit pays costs and rewards the shareholder. Change 'shareholder' to 'depositor' and we have the orthodox picture. Although the website has another whole page titled 'Proof that Banks Create Money' it comprises nothing more than a series of quotes – opinions – reiterating the core assertion.

So far, in all our accounts, we have a theory that banks 'create money out of nothing' with very little data provided to suggest that there is a problem in the world of banking that requires a novel theory such as this. But Positive Money does have a page titled 'How much money have banks created?'[63] so perhaps here we can find figures that show two sets of data for comparison: firstly the money banks have 'created' by the orthodox method, by lending from deposits, and secondly the money banks have 'created' by lending out of nothing. Unfortunately the figures they give for commercial bank lending to individuals doesn't distinguish the two types of loan. The graph titled 'Commercial bank lending to individuals' simply shows Bank of England statistics. Underneath they say '**By 2004 commercial banks were creating**

over £500 billion pounds a year – that's £500,000,000,000!' (Their use of bold.) But they omit to tell us that in 2004, as pointed out earlier, Bank of England statistics show that sight deposits plus time deposits in commercial banks was £1,500 billion: three times as much as loans to individuals. Clearly there are ample deposits to create loans from in fractional reserve banking without any new hypothesis such as 'banks create money out of nothing'.

The real message of Positive Money lies in a graph on the same page titled: 'Where have they allocated this new money?' This shows how UK bank lending is split between various categories, showing that business lending is falling as a proportion of the total. This may well be a problem that needs fixing, but it is no proof of the counter-orthodoxy, nor is there proof offered that the 'creating money out of nothing' caused this problem.

However, Positive Money does know the solution to the problem of 'creating money out of nothing': it's Full Reserve Banking. It's not new: Friedman, Rothbard, de Soto, and for that matter the Von Mises Institute all want the same thing. Indeed it is astonishing that calls for full reserve banking come equally from the left and right of the political spectrum. But there are perhaps different versions of this demand. Positive Money says this about the new world of banking they would usher in:

> Firstly, the rules governing banking are changed so that banks can no longer create bank deposits (the numbers in your bank account). Currently these deposits are considered a liability of the bank to the customer - after the reform, they would be classified as real money and only the Bank of England would be able to increase the total quantity of them.[64]

The Bank of England would now create 'non-repayable and therefore debt-free' money. This is what would happen next:

> The newly-created money would then be added to tax revenues and distributed according to the elected government's manifesto and priorities. This could mean that the newly-created money is used to increase spending, pay down the national debt, or replace taxation revenue in order to reduce taxes, although the exact mix of these options would depend entirely on the elected government of the day.

Customer accounts would now be changed so that they are 100% safe: 'the equivalent of putting the money into a safe-deposit box with the customer's name written on it.' What Positive Money wants is clear enough: *bailment* of customer money, or in other words 100% hoarding. Of course savings accounts, now renamed as 'investment accounts' will still exist as time-deposits. This means that:

> Banks will then operate in the way that most people think they currently do – by taking money from savers and lending it to borrowers (rather than creating new money (deposits) whenever they make a loan, and walking a tightrope between maximizing profit and becoming insolvent).

Returning now to the idea that the Bank of England will create 'non-repayable and therefore debt-free' money, Positive Money is keen to set proper limits to this – otherwise it would cause inflation. The document says:

> The Monetary Policy Committee (MPC) would authorise the creation of as much new money as they calculate the economy (in other words, companies and households) needs to function healthily, and no more.

There is no need to pursue this document much further: the ideas here are clearly devoid of reality. I'll just leave you with a short list of what the Government might choose to do with 'non-repayable and therefore debt-free' money, listed under the heading 'HOW SHOULD WE SPEND NEWLY-CREATED MONEY?':

> a) reduce the overall tax burden
> b) increase government spending
> c) make direct payments to citizens (sometimes referred to as a 'citizen's dividend')
> d) pay down the national debt

I'm sorry, but a ten-year old has similar ideas about money.

Summary

Let us now step back from this series of examples and look at the big picture. In my own case I first encountered the 'banks create money out of nothing' theory when I was referred to the Positive Money website. If I had not respected the views of the referee I would have forgotten it as a crank site peddling naïve childish theories. Instead I investigated the idea and found that behind Positive Money is the book *Where Does Money Come From?* and behind that are the serious economic thinkers we have examined here, including Schumpeter, von Mises, Keynes, Rothbard, de Soto, Pettifor and Keen.

In all likelihood the idea that 'banks create money out of nothing' may have its roots in Marx's *Capital* Vol. III, though first asserted in Schumpeter. Von Mises states something rather similar to Schumpeter, suggesting to me that economists of the left and economists of the right are equally inclined to adopt it, though for different reasons. The fact that Keynes may have believed it for a period inclines one to the suspicion again that it is a broadly left-wing idea, but then Rothbard and de Soto, highly regarded by the Von Mises Institute suggest the contrary. In the end it seems to shake down to two major schools: those of the Austrian legacy, and those broadly associated with the New Economics Foundation; one on the right of the spectrum and one on the left.

Major Variants of the Theory

We have seen that there really only two fundamental and distinct versions of the idea that banks 'create money out of nothing'. The first cluster of theories hinges around the documented practice of fractional reserve banking while the second cluster hinges around the undocumented – and totally unproven – practice of what I have termed 'negative reserve banking'. All of them start by denying that banks make loans out of deposits. All of them use terminology that in itself predisposes the argument in favour of the theory – 'leading terminology' as it were, though, as we shall see, this terminology starts within the orthodoxy.

Fractional Reserve Theories

We saw that de Soto presents the clearest account of banks 'creating money out of nothing' in the fractional reserve system. For de Soto the key issue lies in the depositor and the borrower effectively having use of the same money – something he believes is a deceit. He genuinely believes that the loans created out of fractional reserve banking are unbacked, that these cause inflation and the problems associated with the business cycle, including recessions: 'Crisis and economic recession have hit, essentially due to a lack of real saved resources with which to complete investment projects which, as has become apparent, were too ambitious.'[65] De Soto's argument is that deposits made by bank customers are insufficient to back bank loans, based on the failure to separate what we call time-deposits from sight-deposits. All fractional-reserve theories of 'creating money out of nothing' seem to be minor variants on this theme, depending on whether the 'money multiplier' is introduced, in which case the alleged scale of the problem is increased.

I have shown that as a 'classic' argument against fractional reserve banking de Soto's logic is faulty. To start with his case may be conceded as a matter of interpretation: the sight deposit may well be 'subjectively' assumed by depositors to exist untouched, and therefore its use by the bank to be somehow fraudulent. But objectively the objections must disappear when multiple clients are acknowledged to exist, whose aggregate behaviour and aggregate satisfaction, when properly managed by a bank, lead to mutual advantage to all parties. *Risk* always exists in fractional reserve banking, and those wishing to avoid risk with their sight deposits have the choice of safe-deposit boxes, though the free market in banking services demonstrates that very few are concerned enough to make that choice. The idea that the fractional reserve banking system in itself 'creates money out of nothing' as an aggregate behaviour is simply unfounded: loans by banks are always slightly less than deposits, *on aggregate*. One cannot use a single-client-single-bank model to prove the opposite.

Negative Reserve Theories

I have coined the term 'negative reserve theory' to cover those theories which simply assert that, because banks produce all kinds of paper money substitutes that are backed by savings, they can also produce unbacked paper money substitutes. The accusation is that a bank can lend more than its deposits, or lend without prior savings. Although no author states it in these terms, this effectively means that banks must have negative reserves. (In real life this would mean bank audits would show massive imbalances, and herald insolvency.) Apart from de Soto, all the authors here allege something like 'banks create money out of nothing; they need no prior deposits'. Only some of them draw the obvious comparison with the counterfeiter of bank notes; only some of them point out the inevitable inflation that would result. Some are against the alleged practice, but for different reasons. Some want to take control of this alleged process away from private banks and put it under state control, thus achieving various social ends.

The less flesh put on these theories, the less there appears a logical argument to counter: in other words these theories mostly consist of a bald assertion that this is what banks do. Because the reasoning is not so open to challenge, one has to ask for empirical data to back the theory. None is forthcoming. Let us see balance sheets for banks, or data on loans at a national level and see whether loans exceed deposits. They don't. Indeed it is hard to see why a grown man like Keynes could make the assertion: 'It is certainly not the case that the banks are limited to that kind of deposit, for the creation of which it is necessary that depositors should come on their own initiative bringing cash or cheques.' But if that is true, give us data that supports it.

Hybrid Theories

Finally, we also have some hybrid theories which mix fractional reserve and negative reserve theories. I am not sure if we can really include Rothbard here: we saw that he simply confused the two theories by choosing a 'fraction' that was over unity to illustrate fractional reserve banking. It is in Keen, Pettifor, Ryan-Collins and Positive Money that we find negative reserve theories that also include some aspects of the fractional reserve system, in particular the role of central bank reserves. Here the assertion is often made that the central bank can create unlimited reserves 'out of nothing' to satisfy the private banks' lending. These theories often appear to put flesh on the bones of a bare negative reserve theory, i.e. they appear to provide something of a mechanism as to how banks can simply create more money than they have deposited, but mostly the theories turn out to be convoluted and rather vague.

We saw that the logic of each theory led to various contradictions. In Keen's version it would require central banks to print money, 'reserves', on a vast scale and provide them to banks. Federal Reserve data suggests that it only provides additional reserves to banks in the region of 0.3% above their existing reserves in normal times. In the version of Ryan-Collins et al it would require some mechanism whereby banks create this 'funny' money without having to stump up 'real' money at clearing. In both cases empirical data is lacking: no figure is put forward for example of the ratio of genuine lending to lending 'out of nothing'. Also, the mechanisms they propose, if true, would yield an insignificant amount of new lending.

In both variants of what I am calling 'negative reserve banking' authors simply ignore, or deny, the existence of vast deposits available for loan. Unless their theories can explain why those deposits do not adequately account for existing lending, they remain on very shaky ground.

Proposed 'Fixes': Full Reserve Banking and State Control

The arguments against fractional reserve banking lead many of their proponents to demand the end of the practice and restore full reserve banking. Even those who don't appear to claim that banks 'create money out of nothing' may argue for full reserve banking. In a 1948 paper Milton Friedman argued for changes to the monetary system, including:

> A reform of the monetary and banking system to eliminate both the *private creation or destruction of money* and discretionary control of the quantity of money by central bank authority. *The private creation of money* can perhaps best be eliminated by adopting the 100 per cent reserve proposal, thereby separating the depositary from the lending function of the banking system. The adoption of 100 per cent reserves would also reduce the discretionary powers of the reserve system by eliminating rediscounting and existing powers over reserve requirements. To complete the elimination of the major weapons of discretionary authority, the existing powers to engage in open market operations and the existing direct controls over stock market and consumer credit should be abolished.[66] (My italics)

Friedman does not appear to be saying that banks 'create money out of nothing', but he does appear to believe that they create and destroy it, and on this basis wants full reserve banking. So do von Mises, Rothbard, de Soto, and also Positive Money and James Robertson of the NEF.[67]

The other demand, made I think mainly by the New Economics Foundation and related thinkers, is that government should end the right of private banks to 'create money out of nothing' and place that in the hands of the central bank, as directed by government policy. In Robertson's variant of this he wants to 'restore seigniorage' to the Bank of England – but the essence is the same: to stop the use of sight deposits in fractional reserve banking. However, the associated demand: that government print money and use it instead of taxation to carry out fiscal policy takes us into the realms of pure fantasy.

The Issue of Existing Savings

We have seen that at the core of all the variants of the theory that banks 'create money out of nothing' lies the assertion that there are insufficient deposits to cover loans. I have to admit I am truly puzzled by this: how can serious economists simply dismiss as unimportant to their theory the vast amount of savings deposited in banks and making their way into loans of all kinds of such as personal loans, mortgages, overdrafts, and lending to corporations and governments through corporate and government bonds? The available data on savings and the literature on the subject indicate the scale of global surpluses seeking a return. The World Bank puts global GDP for 2010 at $63.12 trillion, while Morgan Stanley put the global saving rate at a steady 23% of GDP. That means that global savings in 2010 were $14.5 trillion. Nearly a quarter of economic activity lands up as a surplus available for loans. Ben Bernanke, current chair of the US Federal Reserve, coined the term 'global savings glut' in 2005 to describe the phenomenon of worldwide savings far exceeding investment opportunities. But perhaps the simplest set of figures to convey the magnitude of savings comes from the Bank of England. Let us go back to the figures for loans breathlessly announced on the Positive Money website:

> **By 2004 commercial banks were creating over £500 billion pounds a year –** that's £500,000,000,000!

Positive Money uses Bank of England statistics LPQVZQN and LPQVTVC, which are the total lending figures to individuals and housing associations, and these do indeed exceed £500 billion for 2004. In fact the total lending that year, as ‘advances’, according to my banking textbook (which also draws on Bank of England statistics), was £1.2 trillion. But ‘created out of nothing’? The total *deposits* that year, according to the same source, were £1.565 trillion. The loans, on the orthodox theory, were ‘created’ out of deposits. These were made up out of sight deposits of £0.757 trillion and time deposits of £0.807 trillion – which shows that deposits were divided roughly equally between the two sorts of banking that de Soto identified. It shows that if fractional reserve banking were abolished, and all sight deposits were unavailable for loans, then roughly half of savings would be withdrawn from loan-creation.

The ‘negative reserve theorists’ are either silent on the question of existing deposits, or assert that loans do not have their source in deposits. They do not quote figures. Banking textbooks insist on the other hand that loans made by banks come from deposits, and the balance sheets of banks and national statistics seem to support that view. For the ‘fractional reserve theorists’ – such as de Soto – their argument does not hinge on a denial of deposits. Instead they effectively insist that sight deposits and the loans made out of them circulate at the same time, and hence fraudulently. Banking textbooks insist however that *on aggregate* depositors spend their money slowly, giving borrowers sufficient time to repay their loans. We saw that in using a single-bank-single-client model de Soto could not derive a theory of banking consistent with what bankers say they do. But a multiple-bank-single-customer model of fractional reserve banking is perfectly consistent with the explanation given by bankers of their activities. How does one, on aggregate, lend out the sight deposits of depositors so that there is never a run on the bank? They answer bankers give lies in their technical terms, jargon if you will, of the ‘three transformations’ – size transformation, maturity transformation and risk transformation (indeed an analysis of the banking failures leading to the Credit Crunch in terms of these three transformations would be productive). No loans are ‘created out of nothing’ here either.

It is extremely unlikely, therefore, that theories of banks ‘creating money out of nothing’ are correct. In each case there are flaws in reasoning, and a failure to provide empirical evidence. Indeed, when we ask the question: what is the *data* that the counter-orthodoxy seeks to explain and which requires the overthrow of the banking orthodoxy, then no answer is forthcoming. For instance, even the assertion that goldsmith bankers made more loans than they had deposits is never backed up by data. There are existing records of the accounts, for example, of the famous late 17th century goldsmith banker Edward Backwell, and these can be checked. The goldsmith banker John Freame, as a Quaker, is even more likely to have left very comprehensive accounts.[68] Or, if banks create vast sums of money out of nothing, and these don’t show up in Bank of England balance sheets, or those of the private banks, then presumably there is fraudulent accounting. When banks such as BCCI, which went bust in 1991, are investigated fraud of all kinds may emerge. But when have investigators, now in possession of complete records, ever accused such a bank of systematically ‘creating money out of nothing’, of having loans vastly in excess of deposits? And if they did, would not the exception, now prosecuted for fraud, prove the rule that this is exactly how you go bust?

Why the Resolution probably lies in Language (and Accounting)

That ordinary people subscribe to all sorts of counter-orthodoxies in technical fields in which they have no expertise is not surprising. Thousands of patents are sought every year by cranks who have invented perpetual motion machines in ignorance of the laws of physics; millions of people believe that WTC7 collapsed through controlled demolition without studying the official reports; millions more with no expertise in ballistics believe that ballistics prove Kennedy couldn't have been shot by Oswald. But why do men like Schumpeter, von Mises, Keynes or Keen believe that banks 'create money out of nothing'? Is Keen's insistence that bankers can avoid auditing and regulation an idea verging on conspiracy theory? Which would then conveniently mean nothing either way can be proved? The banker that Keynes dismissed, Sir Walter Leaf (director of the Westminster bank in the early part of the 20th century), tried to tell him that banks 'can lend no more than their depositors have previously entrusted with them'. According to Keynes economists 'cannot accept this'. Why not?

I had suggested that in Keynes's case he constructed new terminology: 'actively creating a deposit' for 'loan' and 'passively taking a deposit' for 'deposit'. I don't think we have anything more in this instance than a typical move by an intellectual to invent grand-sounding terminology as a rhetorical device. He wants to persuade us, in the absence of any evidence at all, that banks 'create money out of nothing'. So why not call loans something new, say 'actively creating a deposit'? The job of persuasion is already half done. And, despite the fact that Keynes is rarely quoted directly, the legacy lives on in the work of Positive Money, for example in the indignation with which their spokesman announces: 'When banks make loans, they create additional bank deposits for those that have borrowed money.' *They just type numbers into your account*. But what does Positive Money expect? For the banker, on agreeing the loan, to issue it directly in suitcases full of banknotes?

More broadly I think the problem arises because in the field of economics certain terms and phrases have arisen that have never been challenged, in particular that 'banks create money', 'banks increase the money supply through the money multiplier' and so on. These terms can be found within orthodox accounts of banking, so, for example, Casu, Girardone, and Molyneux list one of the functions of the central bank as 'the power to control the amount of credit-money created by banks…'[69] They also provide a classic account of the money multiplier with this introduction: 'In order to understand how banks create money we illustrate a simple model of the credit multiplier…'[70] An early edition of the standard economics textbook that I have has a section entitled 'Banks as creators of money'.[71] This terminology is endemic to the orthodox account, so perhaps it leads some thinkers to adopt the counter-orthodoxy: at first sight the language looks familiar.

But we have seen, in carefully examining the theories of de Soto in particular, that fractional reserve banking does not 'increase the money supply'. The 'money supply' starts with the deposits of customers, which he would prefer to be put into 'bailment', beyond the use of the banker. I have suggested that his bailment or hoarding takes money out of circulation, or to use the language of the orthodoxy, 'decreases the money supply'. What fractional reserve banking does is to restore the bailed or hoarded money held in sight accounts back into circulation thus, 'increasing the money supply'. But of course, there is no actual increase. At best a large proportion, perhaps somewhere between 90% and 99%, of hoarded money is made available for loans. The infamous 'money multiplier' does nothing to change this: no money is multiplied, only the accounting thereof (as so confused Marx when he tried to work out whether private bank reserves which were held at the Bank of England had been 'multiplied' through the additional paperwork). Instead, by taking money out of bailment (hoarding) money *velocity* is increased. But, I would suggest, out of the widespread and misleading use of terms such as 'money supply' and 'money multiplier', and in particular 'creation of money', perfectly rational economists have been led into believing in variants of the idea that banks 'create money out of nothing' through the fractional reserve system or even by plucking it out of thin air. Banks clearly don't. They dis-bail, or dis-hoard deposited money, that's all, thus increasing the velocity of money in circulation.

Why though does money appear to 'multiply' in fractional reserve banking? I think there can be no doubt that this illusion is simply an artefact of double entry bookkeeping. The accounting method is not at fault, but rather the impression it creates in people's minds that something dubious is taking place. If the definitions of 'money' were to exclude the famous 'store of value', then this problem might cease.

Does money ever actually get 'created'? I would say yes, but mostly not in banks. It gets created whenever one group of people supply goods and services for another group of people. It gets created in factories, warehouses, shops, barber's salons, transport networks, artist's studios, - and, admittedly, *to a small extent*, when banks charge people for their useful services, including charging interest on loans. In other words money is created in the course of regular economic activity. (*How* exactly that works is a subject for another paper.) Because banks arrange interest-bearing loans, perhaps that's why we have the illusion that they create money out of money or money out of nothing. They don't: wealth is created through enterprise, whether privately or collectively owned.

Does it Matter?

George Monbiot, writing in *The Guardian* on the problems of international debt, says: 'The problem has been compounded by the growth in "fractional reserve banking": the process by which banks create money out of nothing by lending far more than they possess.'[72] Third World Debt, he says, is 'not a debt at all, but the artefact of a deformed accounting system.' Like Pettifor and Keen, Monbiot is writing on serious issues like international debt, and appears to believe that banks 'create money out of nothing'. The idea circulates widely, but, I believe, it hampers real efforts to fix what is *genuinely* broken in our financial systems.

In the work of Pettifor, Keen, the New Economics Foundation and Positive Money there is a concern for debt, and its role in the Great Recession, and in ordinary people's lives. If we imagine that banks are under a covenant to dis-hoard our savings and lend them to socially constructive projects, then these thinkers all agree that lending to businesses – apart perhaps those that make arms – is productive, whereas lending to fund speculation on asset bubbles is irresponsible. In other words, whether banks create money out of nothing, or lend it from savings, the *real* issues remain. Tied in with the concern over irresponsible lending are questions of usury, and of moral hazard. Pettifor's work on usury is particularly interesting. The Credit Crunch and resulting Great Depression clearly show that banks have failed in their covenant to society: irresponsible lending, usury, and moral hazard are issues relating to that failure. But I think I have shown that the idea that banks 'create money out of nothing' is a theory that fails to explain any data, is based in faulty logic, and is *unnecessary* in any attempt to address those real problems of modern fractional reserve banking. On the contrary organisations and individuals like the NEF and Ann Pettifor are likely to be less successful in their aims armed with such a dubious theory.

Conclusions

I have shown how the idea that banks 'create money from nothing' has a long history, and has two major variants with quite different theoretical bases. I think I have shown that this counter-orthodoxy arises in part out of the language used by the orthodox explanation of banking practice – in particular the idea that in the first place banks do 'create money' when in fact they merely 'dis-bail' sight deposits – existing money – in order to make loans. Double-entry bookkeeping may also have a role in perpetuating the illusion that banks 'multiply' money (rather than multiply paperwork). Rather than think of fractional-reserve banking as a system where money is either 'created' or 'multiplied' it may be more useful to think of the 'dis-bailment' of money by banks as simply increasing its velocity. Regardless of such interpretations, the counter-orthodoxy – whether as a fractional reserve theory, a negative reserve theory, or as a hybrid of the two – remains both unproven and unsupported by data. It is also probably a handicap or at least a distraction both in seeking ways to genuinely improve banking practice and in the discussion of debt.

References

[1] Casu, Barbara, Girardone, Claudia and Molyneux, Philip, *Introduction to Banking*, Harlow: Prentice Hall, 2006, p. 4
[2] http://www.positivemoney.org.uk/ (accessed 19/04/2012)
[3] http://www.telegraph.co.uk/comment/personal-view/7273332/Darius-Guppy-our-world-balances-on-a-sea-of-debt.html (accessed 19/04/2012)
[4] Marx Capital Vol III, p. 601
[5] Smith, Adam, *An Inquiry into the Nature and Causes of the Wealth of Nations*, Aberdeen, London, 1848, p. 236
[6] Schumpeter, Joseph A, *The Theory of Economic Development*, New Brunswick: Transaction Publishers, 2008, p. 70
[7] Schumpeter, Joseph A, *The Theory of Economic Development*, New Brunswick: Transaction Publishers, 2008, p. 73
[8] Casu, Barbara, Girardone, Claudia and Molyneux, Philip, *Introduction to Banking*, Harlow: Prentice Hall, 2006, p. 113
[9] Von Mises, Ludwig, *The Theory of Money and Credit*, Indianapolis: Liberty Fund, 1981, p. 20
[10] Schumpeter, Joseph A, *The Theory of Economic Development*, New Brunswick: Transaction Publishers, 2008, p. 55
[11] Schumpeter, Joseph A, *The Theory of Economic Development*, New Brunswick: Transaction Publishers, 2008, p. 109
[12] Bagehot, Walter, *Lombard Street: A Description of the Money Market*, New York: Cosimo Classics, 2006

[13] Schumpeter, Joseph A, *The Theory of Economic Development*, New Brunswick: Transaction Publishers, 2008, p. 72
[14] Von Mises, Ludwig, *The Theory of Money and Credit*, Indianapolis: Liberty Fund, 1981, p. 86
[15] Von Mises, Ludwig, *The Theory of Money and Credit*, Indianapolis: Liberty Fund, 1981, p. 174
[16] Von Mises, Ludwig, *The Theory of Money and Credit*, Indianapolis: Liberty Fund, 1981, p. 175-6
[17] Von Mises, Ludwig, *The Theory of Money and Credit*, Indianapolis: Liberty Fund, 1981, p. 180
[18] Keynes, p. 25
[19] Keynes, p. 30
[20] Rothbard, Murray N. *The Mystery of Banking*, Auburn: Ludwig von Mises Institute, 2008, p. 2
[21] Rothbard, Murray N. *The Mystery of Banking*, Auburn: Ludwig von Mises Institute, 2008, p. 76
[22] Rothbard, Murray N. *The Mystery of Banking*, Auburn: Ludwig von Mises Institute, 2008, p. 89
[23] Rothbard, Murray N. *The Mystery of Banking*, Auburn: Ludwig von Mises Institute, 2008, p. 90
[24] Note that Rothbard is drawing on J. Milnes Holden, *The History of Negotiable Instruments in English Law*, London: The Athlone Press, 1955 – a work I have not examined.
[25] Rothbard, Murray N. *The Mystery of Banking*, Auburn: Ludwig von Mises Institute, 2008, p. 98
[26] Keynes, John Maynard, *A Treatise on Money: The Pure Theory of Money and The Applied Theory of Money*, Mansfield Centre: Martino Publishing, 2011, p. 37
[27] Keynes, John Maynard, *A Treatise on Money: The Pure Theory of Money and The Applied Theory of Money*, Mansfield Centre: Martino Publishing, 2011, p. 25
[28] Casu, Barbara, Girardone, Claudia and Molyneux, Philip, *Introduction to Banking*, Harlow: Prentice Hall, 2006, p. 7
[29] de Soto, Jesús Huerta, *Money, Bank Credit, and Economic Cycles* (Second Edition), Auburn: Ludwig von Mises Institute, 2006, p. 168
[30] de Soto, Jesús Huerta, *Money, Bank Credit, and Economic Cycles* (Second Edition), Auburn: Ludwig von Mises Institute, 2006, p. 179
[31] de Soto, Jesús Huerta, *Money, Bank Credit, and Economic Cycles* (Second Edition), Auburn: Ludwig von Mises Institute, 2006, p. 186
[32] de Soto, Jesús Huerta, *Money, Bank Credit, and Economic Cycles* (Second Edition), Auburn: Ludwig von Mises Institute, 2006, p. 196
[33] de Soto, Jesús Huerta, *Money, Bank Credit, and Economic Cycles* (Second Edition), Auburn: Ludwig von Mises Institute, 2006, p. 206
[34] de Soto, Jesús Huerta, *Money, Bank Credit, and Economic Cycles* (Second Edition), Auburn: Ludwig von Mises Institute, 2006, p. 210
[35] de Soto, Jesús Huerta, *Money, Bank Credit, and Economic Cycles* (Second Edition), Auburn: Ludwig von Mises Institute, 2006, p. 187
[36] Pettifor, Ann, *The Coming First World Debt Crisis*, Basingstoke: Palgrave Macmillan, 2006, p. 57
[37] Pettifor, Ann, *The Coming First World Debt Crisis*, Basingstoke: Palgrave Macmillan, 2006, p. 60
[38] Pettifor, Ann, *The Coming First World Debt Crisis*, Basingstoke: Palgrave Macmillan, 2006, p. 63-64
[39] Pettifor, Ann, *The Coming First World Debt Crisis*, Basingstoke: Palgrave Macmillan, 2006, p. 67
[40] Keen, Steve, *Debunking Economics: The Naked Emperor Dethroned?* (Revised and Expanded Edition), London: Zed Books, 2011, p. 354
[41] Keen, Steve, *Debunking Economics: The Naked Emperor Dethroned?* (Revised and Expanded Edition), London: Zed Books, 2011, p. 337
[42] Keen, Steve, *Debunking Economics: The Naked Emperor Dethroned?* (Revised and Expanded Edition), London: Zed Books, 2011, p. 358
[43] Keen, Steve, *Debunking Economics: The Naked Emperor Dethroned?* (Revised and Expanded Edition), London: Zed Books, 2011, p. 370
[44] Keen, Steve, *Debunking Economics: The Naked Emperor Dethroned?* (Revised and Expanded Edition), London: Zed Books, 2011, p. 308
[45] Pettifor, Ann, *The Coming First World Debt Crisis*, Basingstoke: Palgrave Macmillan, 2006, p. 60
[46] Ryan-Collins, Josh, et al, *Where Does Money Come From?: A Guide to the UK Monetary and Banking System*, London: New Economics Foundation, 2011, p. 4
[47] Ryan-Collins, Josh, et al, *Where Does Money Come From?: A Guide to the UK Monetary and Banking System*, London: New Economics Foundation, 2011, p. 5
[48] Ryan-Collins, Josh, et al, *Where Does Money Come From?: A Guide to the UK Monetary and Banking System*, London: New Economics Foundation, 2011, p. 16
[49] Ryan-Collins, Josh, et al, *Where Does Money Come From?: A Guide to the UK Monetary and Banking System*, London: New Economics Foundation, 2011, p. 33

[50] Ryan-Collins, Josh, et al, *Where Does Money Come From?: A Guide to the UK Monetary and Banking System*, London: New Economics Foundation, 2011, p. 35
[51] Ryan-Collins, Josh, et al, *Where Does Money Come From?: A Guide to the UK Monetary and Banking System*, London: New Economics Foundation, 2011, p. 38
[52] Ryan-Collins, Josh, et al, *Where Does Money Come From?: A Guide to the UK Monetary and Banking System*, London: New Economics Foundation, 2011, p. 55
[53] Ryan-Collins, Josh, et al, *Where Does Money Come From?: A Guide to the UK Monetary and Banking System*, London: New Economics Foundation, 2011, p. 58
[54] Ryan-Collins, Josh, et al, *Where Does Money Come From?: A Guide to the UK Monetary and Banking System*, London: New Economics Foundation, 2011, p. 65
[55] Ryan-Collins, Josh, et al, *Where Does Money Come From?: A Guide to the UK Monetary and Banking System*, London: New Economics Foundation, 2011, p. 68
[56] Casu, Barbara, Girardone, Claudia and Molyneux, Philip, *Introduction to Banking*, Harlow: Prentice Hall, 2006, p. 199-201
[57] Ryan-Collins, Josh, et al, *Where Does Money Come From?: A Guide to the UK Monetary and Banking System*, London: New Economics Foundation, 2011, p. 77
[58] Ryan-Collins, Josh, et al, *Where Does Money Come From?: A Guide to the UK Monetary and Banking System*, London: New Economics Foundation, 2011, p. 113
[59] http://www.positivemoney.org.uk/about/who-are-we/ (accessed 20/April/2012)
[60] http://www.positivemoney.org.uk/how-banks-create-money/balance-sheets/ (accessed 24/April/2012)
[61] Marx, Karl, *Capital Vol.3*, London: Penguin, 1991, p. 603
[62] Bank of England Red Book, p. 6
[63] http://www.positivemoney.org.uk/how-banks-create-money/how-much-money-have-banks-created/ (accessed 24/April/2012)
[64] http://www.positivemoney.org.uk/2012/02/full-reserve-banking-plain-english/ (accessed 24/April/2012)
[65] de Soto, Jesús Huerta, *Money, Bank Credit, and Economic Cycles* (Second Edition), Auburn: Ludwig von Mises Institute, 2006, p. 375
[66] Friedman, Milton 1948: "A Monetary and Fiscal Framework for Economic Stability", The American Economic Review, 38 (1948), p. 247
[67] Huber, Joseph and Robertson, James, *Creating New Money: A Monetary Reform for the Information Age*, London: New Economics Foundation, 2000
[68] http://www.themeister.co.uk/hindley/freame_john.htm (accessed 24/April/2012)
[69] Casu, Barbara, Girardone, Claudia and Molyneux, Philip, *Introduction to Banking*, Harlow: Prentice Hall, 2006, p. 110
[70] Casu, Barbara, Girardone, Claudia and Molyneux, Philip, *Introduction to Banking*, Harlow: Prentice Hall, 2006, p. 22
[71] Begg, David et al, (Eds.), *Economics*, *2nd Edition*, Maidenhead: McGraw-Hill, 1987, p. 488
[72] Monbiot, George, 'There Is No Debt', *The Guardian*, 20th July 2000