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Abstract.

In an economy where privately created money is banned, i.e. where the only form of money is state issued money, there is no obvious reason why interest rates would not settle down to some sort of genuine free market level. On the assumption normally made in economics, namely that GDP is maximised where market forces prevail unless market failure can be demonstrated, and given that there is no obvious reason to suspect market failure under the latter ban, that means that GDP is maximised where privately issued money is banned.

One reason for thinking a state money only system (SMO) is more of a genuine free market than the existing system is that in free markets, producers normally bear the full costs of production and pass those costs on to customers. However, under the existing bank system, private banks can obtain money for free (administration costs apart) because those banks can effectively print money. Other corporations do not have that privilege. I.e. under SMO, banks and non-bank corporations are on an equal footing.

It might seem odd to claim that SMO is closer to a free market than the alternatives, given that free markets are normally associated with scenarios where the private sector dominates, or (same thing), associated with the state playing little or no role. However the latter generalisation does not apply to money. A hint as to why is contained in the well-known phrase “money is a creature of the state”. That is, governments inevitably play an important role when it comes to a country’s currency, thus the only question is: what should that role be?

While interest rates are higher and debts are lower under SMO, any deflationary effect of those higher rates is easily countered by creating and spending more base money and/or cutting taxes.

If SMO in fact maximises GDP, and that system is implemented, states (or more specifically central banks’) ability to adjust interest rates is curtailed. Given that it is widely accepted that interest rate adjustments are a good way of adjusting demand, that might appear to be a weakness in the argument here. In fact there are glaring flaws in artificial interest rate adjustments. Thus the latter apparent weakness is not a weakness at all.

A good way of solving a problem is to take the simplest possible case of the problem, solve that, and then add the complexities of the real world. That ploy will be adopted here in that different possible monetary systems will be illustrated by considering a hypothetical barter economy that decides to adopt money. (Readers who want to claim that ploy is invalid because barter economies never existed, please see endnote 1).

In barter economies, people lend goods to each other, and in effect charge interest sometimes. For example in a desert island barter economy, one person lending a fishing rod to another person might want a few fish as a reward for the loan. At the same time, no doubt loans in barter economies are sometimes granted for altruistic reasons, just as they are for example between family members in money based economies sometimes. No doubt interest in barter economies is not calculated with the same accuracy as in money based economies, but interest is still sometimes charged.

Should creditors lose access to what they lend?

Note that when one person lends goods to another in a barter economy, the lender loses access to the goods as long as the borrower has possession of them.

That is in contrast to the real world bank system where money deposited at a bank can be loaned on by the bank while the depositor still has access to the money, a piece

of trickery which many regard as fraud. Indeed the basic argument here is that that “trickery” results in an artificially low rate of interest plus excessive debts, and thus does not maximise GDP. (Incidentally, for readers who object to the latter “lend on” idea on the grounds that banks allegedly create money rather than intermediate between borrowers and lenders, see endnote 2.)

Indeed former governor of the Bank of England, Mervyn King (2016) referred to the above possibly fraudulent nature of the existing bank system. As he put it “This is a confidence trick in two senses: it works if, and only if, confidence is strong; and it is fraudulent. Financial institutions make promises that, in likely states of the world, they cannot keep.”

Levitin (2015) in the opening sentences of his abstract refers to the above accepting and lending on of deposits as “irreconcilable”. Around two hundred and fifty years ago David Hume referred to the latter activity of private banks as “counterfeiting”, as did the economics Nobel laureate, Maurice Allais (See the opening sentences of Philips (1992)).

While interest rates are no doubt calculated in barter economies in a far more haphazard way than in money based economies, there is no obvious reason why, at least in principle, interest rates would not settle down to some sort of genuine free market rate in barter economies. Put another way, there is no obvious reason why interest rates would be artificially high or low.

A barter economy adopts money.

Where a barter economy decides to adopt money, it has various options as follows.

1. “State issued fiat money only” (SMO).

2. “Privately issued fiat money only”.

3. “Gold standard private money only”.

4. “State and private fiat money”: the system that exists in the real world at the time of writing.

Those four will now be considered in turn. The first option occupies most of the rest of this paper, i.e. options two, three and four are disposed of fairly quickly towards the end of this paper.

Re the first option, SMO, that comes to the same thing as full reserve banking as advocated for example by Lawrence Kotlikoff (2012), Milton Friedman ((1960) 2nd half of Ch3) and Werner (2010). (For readers not sure what full reserve banking is, see endnote 3).

Under that system there is no obvious reason why interest rates would not settle down to some sort of genuine free market rate. (The obvious possible criticism of that point, namely that anything organised by the state is the very antithesis of a free market is dealt with below.)

Moreover, it is widely accepted in economics that GDP is maximised where goods and services change hands at free market prices, unless market failure can be

demonstrated. E.g. unless there are obvious social costs involved in producing widgets, the normal assumption in economics is that GDP will be maximised where widgets are traded at their free market price. Same goes for the price of borrowed money (i.e. interest rates).

Costs of production.

One reason why something like a genuine free market rate of interest prevails under SMO is thus. In a free market, producers of any commodity bear the full cost of production, and pass those costs on to customers. And in the case of money, most firms and households have only two main ways of obtaining money: borrow it and earn it. However, commercial banks (henceforth just “banks”) have a third way, namely simply creating money out of thin air, and that costs them nothing. As Huber (2000) put it, “Allowing banks to create new money out of nothing enables them to cream off a special profit. They lend the money to their customers at the full rate of interest, without having to pay any interest on it themselves. So their profit on this part of their business is not, say, 9% credit-interest less 4% debit-interest = 5% normal profit; it is 9% credit-interest less 0% debit-interest = 9% profit = 5% normal profit plus 4% additional special profit.” Incidentally, the legal underpinning for that artificial privilege for banks is explained by Werner (2014). Also, there is a brief explanation as to how private banks create money in a Bank of England article (McLeay (2014)).

So under SMO, there is a level playing field as between banks and non-bank corporations. I.e. there is no artificial preference for banks, and a system where there is no artificial preference for any particular type of corporation is closer to a free market, all else equal, than where the field is not level.

The provisional conclusion is that it is beginning to look like under SMO there is a genuine free market rate of interest.

Maturity transformation.

One characteristic of SMO is that if a bank wants to lend $X it has to find someone willing to tie up $X for a significant period, which mirrors what happens where one person lends goods to another in a barter economy. Thus that arrangement is perfectly natural.

Having suggested there are merits in a system where there is no maturity transformation (MT), it might seem that in the case of long term loans like mortgages, lenders would be condemned to parting with their money for years or even decades. However, that is not actually the case because for every term account depositor wanting quicker than expected access to their money, chances are there'd be another wanting to TIE UP their money for a few months. I.e. the latter could just take over the account held by the former. Or if someone wanted very quick access to money they'd loaned out, and no one wanted to

buy the account at face value, there'd be nothing to stop them selling the loan at a discount to its face value. Plus it would be perfect possible under such a system to have a law preventing banks from making new loans till they had repaid money to all customers who had put their money in term accounts but who changed their mind and wanted quick access to their money.

Maturity transformation achieves nothing.

As pointed out just above, under SMO, there is no MT. But the conventional wisdom (spelled out in a hundred economcis text books) is that MT is beneficial. That might seem to be a weakness in the arguments here, but in fact it is not, because MT is a farce, and for the following reasons.

Non-bank entities (households, non-bank firms, etc) aim for a stock of money that suits them. As explained in the text books that stock is normally something like "enough to enable day to day transactions for the next month or two, plus something to cater for the unexpected". And money is a bank liability which is easily and quickly transferred to some other entity. The latter "transfer" takes place when someone writes a cheque or does a debit card transaction for example.

Now if we start with a hypothetical economy where MT is banned and then assume that it is allowed, a proportion of the money that bank customers have in term accounts

becomes instantly available. And according to the economics text books that is beneficial because it enables bank customers to earn some of the generous rates of interest that come with term accounts, while at the same time having instant access to their money.

There is however a snag. As just explained, the result of introducing MT is that everyone's stock of instantly available money rises. The result is that bank customers will try to spend away some of that excess stock, which will be inflationary assuming the economy is already at capacity. As a result, government will have to impose deflationary measures of some sort, like raising taxes and confiscating a proportion of everyone's stock of money!

Also, bank customers when a proportion of the money in their term accounts becomes instantly available, will deal with the excess amount of instant access money they then have by placing it in term accounts or "very long term term accounts", thus nullifying the basic objective of MT.

In short, the alleged benefits of MT are pretty much of a mirage, if not a comlete mirage.

Private money creation involves an externality.

A second reason for thinking SMO is nearer to a free market than the alternatives has to do with externalities.

Advocates of free markets and economists generally do not actually advocate a totally free "no holds barred" free

market in that it is widely accepted that externalities should not be allowed. And private money creation involves a very obvious externality as follows.

Assuming SMO is in place and private money creation is then allowed, banks will then create and lend out money at below the going rate of interest. But the extra spending that stems from those loans will be inflationary, which in turn means government will have to impose some sort of deflationary measure like raising taxes: i.e. confiscate money from the non-bank private sector. And confiscation is a blatant form of externality.

Justifiable stimulus.

As distinct from the latter scenario where extra demand stemming from private money creation is not needed, an alternative scenario (one that often occurs in the real world) is that that extra demand is in fact needed. This alternative scenario is simply the situation where the economy is seen as not being at capacity, and the central bank cuts interest rates so as to boost demand. And the conventional wisdom is that such interest rate cuts are beneficial, which in turn would seem to suggest that letting private banks create money is equally beneficial.

However the flaw in that argument is that interest rate adjustments are a farce, and for the following reasons.

First, given a recession, there is no good reason to

assume the cause is a lack of borrowing, lending and investment rather than a deficiency in some other element of aggregate demand, like consumer confidence or exports.

Second, even if borrowing, lending and investment HAVE FALLEN just prior to a recession, they may have fallen for perfectly good reasons, e.g. a fall in demand for investment goods.

Indeed, the absurdity of cutting interest rates so as to deal with a recession without looking very carefully at the cause of the recession was nicely illustrated in the recent recession. That is, the recession was sparked off by excessive and irresponsible lending by banks. And the reaction of the authorities? They cut interest rates so as to encourage more borrowing! That makes as much sense as trying to cure alcoholics by giving them crates of whiskey.

Third, there is no obvious reason why, given a recession, interest rates do not fall of their own accord, as mentioned above. Certainly interest rates have fallen dramatically and of their own accord over the last twenty years. To the extent that that is true, there is no argument for additional and artificial interest rate cuts in a recession.

Forth, the basic purpose of the economy is to produce what people want, both in the form of what they purchase out of disposable income and what they want in the form of state provided services. Ergo, if the economy is not at

capacity, the logical remedy is to cut taxes and raise public spending, rather than cut interest rates.

Fifth, several other arguments against interest rate adjustments are set out by Werner (2010).

The zero bound.

The latter argument of course assumes there is scope to cut interest rates, which is the situation that prevailed in the West between WWII and around 2010. Since around 2010, interest rates have been at or near zero, which means a slightly different ball game to where interest rates are well above zero. However, for the sake of simplicity, this paper will stick with the assumption that interest rates are well above zero.

Interest rate adjustments in an emergency could be desirable.

Having argued that interest rate adjustments are not a good way adjusting aggregate demand, that is not to say they should NEVER be used. One reason is that where a dose of deflation is needed, there can be limits, for example, to how far taxes can be raised because of the possible popular revolts or riots.

Thus for political rather than economic reasons, temporary interest rate hikes might be desirable.

As to exactly how central banks would adjust interest rates under SMO given that the normal method of adjusting rates is thwarted there is no problem in RAISING rates. Central banks just need to wade into the market and offer to borrow money at above the going rate of interest. And while some central banks may be barred from doing that under existing legislation, there is no reason that legislation cannot be altered.

As for CUTTING interest rates, they could do that by printing money and buying up government debt and/or blue chip corporate bonds: in other words quantitative easing.

Don’t banks pay for money once it is deposited?

The initial creation of money costs banks nothing if the cost of checking up on customers’ credit-worthiness is ignored (costs which are considered below). It could however be argued that that non-existent cost is only temporary in the sense that those banks have to pay interest to those who after receiving that money, deposit it at banks. (That is, people who borrow from banks spend the relevant money, thus that money ends up in the hands of others, who deposit it at their bank/s.)

The answer to that is that banks have no need or motive to pay those depositors the full rate of interest – i.e. the above mentioned free market rate.

To illustrate, assume an economy is at capacity. Also assume banks spot lending opportunities which are not viable at the existing or free market rate of interest, but which ARE VIABLE at a lower rate. The obvious strategy for banks is to print money and lend it out at below the free market rate.

As for the fact that banks then need to pay interest to depositors, banks can simply refuse to pay as much as they used to and there's not much depositors can do about it. Most depositors have nowhere else to go. Indeed, interest rates have fallen significantly over the last twenty years and the interest on typical UK high street bank current accounts ("checking acconts" in the US) is now as good as zero, but there is not much the average depositor can do about that.

Also, under the existing real world system, while the main objective is to cut rates for borrowers when central banks cut interest rates, interest paid to depositors inevitably falls at the same time.

It costs central banks nothing to create money.

Having argued against banks' freedom to create money at no cost to themselves, it could be argued that under SMO, money is also produced at no cost (by the state) thus SMO is no better in that regard. Indeed, Milton Friedman made the point that creating and supplying the private sector with base money costs nothing in real terms. As he

put it it (using unnecessarily convoluted language): "It need cost society essentially nothing in real resources to provide the individual with the current services of an additional dollar in cash balances."

However the flaw in that argument is that while it costs the state nothing to create money, it does normally cost private sector corporations and households something to obtain that money. That is, if a state decides to feed more state issued money into the private sector, private sector entities (corporations and households) normally obtain that money by working for the state (e.g. working for state sector instutions like the armed services or creating infrastructure for the state).

Of course the state can choose to supply freshly created money to selected individuals FOR FREE (e.g. those on social security). Or it can do a helicopter drop. But the important point is that the fact that it costs the state nothing to create money does not mean households or corporations necessarily get that money for free.

The Pigou effect.

A third reason for thinking SMO results in a genuine free market rate of interest, or at least something close to that rate, has to do with the Pigou effect.

The Pigou effect is the fact that in a perfectly free market and given a recession, wages and prices would fall, which

in turn would raise the real value of base money (and the national debt), which in turn raises the value of the private sector's paper assets (base money plus national debt). That in turn would encourage spending which brings an end to the recession. However in the real world, the Pigou effect is thwarted by Keynes's "sticky downwards" point: the fact that it is just not possible to cut wages in nominal terms, particularly in heavily unionised sectors of the economy, else one gets strikes, riots and so on.

In contrast to the Pigou cure for recessions, there is no obvious obstruction to interest rates falling of their own accord in a recession. On that basis it would seem that if the real world economy is going to more closely resemble a free market, what is needed in a recession is to boost the real value of the above paper assets, and that can be done simply by having government run a deficit funded by new base money, a strategy that Keynes actually advocated in the early 1930s (Keynes (1933, 5th paragraph).

There are of course two quite different stimulatory elements in the latter "deficit funded by new base money": first there is what might be called the "fiscal element", i.e. the mere fact of more state spending or tax cuts, and second there is the effect of increasing the private sector's stock of money.

The latter policy (i.e. using deficits to deal with recessions and leaving interest rates to find their own level) meshes very nicely with SMO. In particular, there is no need for

“money creating private banks” in this connection, since it is the latter which under existing policies play a central role in interest rate manipulation.

State money only is antithesis of free market?

It might seem there is a flaw in the above argument as follows. The conventional wisdom is that anything organised by the state is the very antithesis of a free market. The quick answer to that is that money is not really a free market phenomenon: certainly the historical evidence is that where money has arisen in various civilisations throughout history, it has not arisen (as is often claimed in the text books) because of the desire by the population to dispense with the inefficiencies of barter (although money clearly does dispense with those inefficiencies). Rather, the historical evidence is that money normally arises because of the desire by kings or rulers to make tax collection more efficient (and money certainly does have that desirable effect).

Also, as is shown below, the various monetary systems in which the private sector plays a larger role (options two, three and four) have big problems.

Higher interest rates creates problems?

As pointed out above, interest rates would tend to rise under SMO. Indeed, the UK’s main official report on

banking after the 2008 bank crisis, the so called “Vickers’s report” also suggested interest rates wold rise (though the report actually used the term “narrow banking” instead of full reserve). See Vickers (2011, section 3.21).

To more accurate, Vickers did not specifically say that interest rates would rise: Vickers said that borrowing would become more difficult, but that comes to the same thing.

Anyway, an obvious objection to SMO is that the latter interest rate rise would adversely affect specific groups, e.g. those with large mortgages. There are several answers to that.

First, assuming the above arguments are correct, SMO combined with higher rates is Pareto optimum, to use the jargon. That is, the above higher interest rate scenario increases GDP, which in turn means that if specific groups are adversely affected, that is easily dealt with via special measures to help those groups. The net result is, or can be that everyone is better off. Indeed, in the UK there are already several measures to help particular groups with housing costs, thus there would possibly not even be a need to introduce any new special measures: that is, possibly all that would be required would be an adjustment of existing measures.

Second, mortgagors in the UK in the 1980s were paying almost THREE TIMES the rate of interest they pay currently, but the sky did not fall in. Nor were the streets

lined with homeless people unable to afford mortgages. Indeed, economic growth was better than it has been over the last ten years.

Third, a rise in interest rates reduces the number of square meters of house that mortgagors can buy, but that in turn cuts demand for housing and thus also cuts house prices, so the latter “reduces the number of square meters” problem is not as bad as might at first seem.

It’s difficult to say how powerful that “square meter” point is, but certainly over the last 20 years or so in the UK the cost of housing in REAL TERMS has DOUBLED, while (as mentioned above) the rate of interest has a bit more than halved. If that is any guide, then it looks like the alleged problems arising from increased interest rates would largely be nullified by a fall in house prices.

Fourth, we hear never ending complaints nowadays about the level of household debts, while the “complainers” do not seem to have any clear ideas as to what to do about it. Well the “complainers” will perhaps be put out of their misery by the ideas in this paper!

Barter economy adopts private only money.

The second of the above mentioned options for a barter economy adopting money was a “private fiat money only” system.

That is ROUGHLY SPEAKING the system we have at the moment in the real world. That is, many currencies were tied to gold around a century ago, but that tie has now been abandoned, thus inflation can erode the value of the money unit (£, $, etc).

Keynes's paradox of thrift.

The first problem with that system revolves around Keynes's "paradox of thrift". That is, as soon as any form of money is introduced, some people will save significant amounts of it. But as Keynes rightly pointed out, when saving rises, spending falls, which in turn raises unemployment.

That problem is easily dealt with under SMO: the state can just issue money to compensate for peoples' desire to save money. A state can do that for example by running a deficit funded by new money.

In contrast to the ease with which the state can deal with Keynes's paradox of thrift, private banks are totally incapable of dealing with that problem. Reason is that privately created money "nets to nothing" as the saying goes. That is for each $ of privately created money there is a $ of debt. Thus privately created money does not provide the private sector with what it wants, namely net financial assets. Advocates of Modern Monetary Theory actually have their own term for the latter, namely "Private Sector Net Financial Assets" (PSNFA).

Note incidentally that PSNFA is composed of two elements, both of which are state liabilities, or at least ostensible state liabities: those two are base money and national debt. However, those two amount to almost the same thing. Martin Wolf (2014, para starting “The purchases of equities…”) made that point, as did Warren Mosler. And in fact the bulk of what might be called “money hoarding” takes the form of national debt rather than base money.

No check on inflation.

The latter “paradox of thrift” problem completely stymies a private fiat money system, unless by some miracle the private sector wants exactly zero PSNFA. But such a system faces another problem which is that there is little or no check on inflation, and for the following reasons.

In a private fiat money system there is no problem as long as the only money created is for day to day transactions. That is, under that system, most people would want a stock of money for such transactions and would obtain that from banks, perhaps after depositing collateral. As long as their “stock of ready cash” (i.e. their bank balance) just bobs up and down above and below the initial balance, there is no sort of a loan there by the bank to the so called “borrower” over the year as a whole.

In contrast, where someone wants a sizeable amount of money which they intend spending and not repaying for a

long time (e.g. a mortgage), that is a different kettle of fish.

One option for banks there is not to lend unless an adequate amount has been put in term accounts by depositors. That is, there is no maturity transformation. That would result in the going rate of interest being the genuine free market rate, and for the same reasons as SMO results in a genuine free market rate of interest: one person or firm cannot borrow money unless another person or firm saves money.

But suppose banks performed the trick which they do in the real world, namely create and lend out money without regard for whether there were long term depositors to match? Well the rate of interest would fall and inflation would rise (assuming the economy was initially at capacity).

It looks like a “private fiat money only” system just doesn’t work, and that rather confirms the saying “money is a creature of the state”.

The cost of creating money.

A final weakness in a private fiat money system is that significant costs are involved for banks in checking up on the creditworthiness of customers wanting a stock of cash. In contrast, creating and issuing base money is almost costless, as Milton Friedman pointed out (to repeat).

A gold standard private system.

The third option for a barter economy adopting money is a privately issued money system on the gold standard. That would work better than a private fiat system because gold blocks inflation. Indeed the price of bread in Britain in 1900 was the same as it was a century earlier in 1800. However there is little chance of the gold standard being re-introduced in the near future, so let's ignore that.

A state and privately issued money system.

The fourth possible type of monetary system our barter economy could adopt is the one that exists in the real world at the time of writing, namely one where both central banks and private banks issue money, with private banks issuing the vast majority of that money.

The problem with that system is that private banks can perform the trick or "fraud" mentioned at the outset above, namely printing and lending out money. As explained above, that results in loans being made which cost the lender nothing and which thus result in a rate of interest which is below the free market rate and a volume of debts which are above what would obtain in a free market.

Conclusion: the clear winner is No 1, SMO.

Other objections to SMO / full reserve banking.

There is no end to the objections that are raised to SMO / full reserve banking. They are actually very easily demolished: in fact I demolished forty of them in Musgrave (2016).

Endnote 1. Barter.

It has become common recently to claim barter economies never existed. One answer to that is that supposedly money based economies are to a significant extent barter economies. For example trade between East European countries prior to the collapse of communism around 1990, was to a significant extent based on barter. For example, trade agreements between Russia and East Germany were along the lines that Russia sent a specified number of barrels of oil to East Germany and the latter sent a specified number of vehicles in return. No cash changed hands.

Also, marriage or the standard boy friend / girl friend relationship involves a significant amount of barter. That is, the male performs various tasks which the female benefits from, and in return the female does likewise. If one side ceases to pull its weight, the relationship probably breaks down.

Of course what drives male / female relationships is love in a proportion of cases. But every marriage is different: in some cases it is very much a commercial / barter relationship with love having nothing to do with it.

But admittedly this is not a clear cut issue. At the very least, the assumption in the main text above that barter economies exist can be used to illustrate some basic principles in economics, even if it is hard to find actual historical examples of barter economies.

Endnote 2: do banks create money or intermediate?

It has recently become fashionable to claim that banks do not intermediate between lenders and borrowers, but rather that they create money. The situation is actually more complicated than that. Certainly banks create money out of thin air. But at the same time a bank cannot create and lend out limitless amounts of money without attracting money from depositors, shareholders, etc. Reason is that if it did, it would run out of reserves and become excessively indebted to other banks. So to that extent, banks do intermediate.

In short, instead of saying banks “do not” intermediate, but rather create money from thin air, it would be more accurate to say that they do both.

Endnote 3. Full reserve banking.

This is a system under which the bank industry is split in two. One half just accepts deposits and lodges those deposits in a totally safe manner, e.g. at the central bank. The other half grants loans and is funded just by equity or similar (e.g. bonds that can be bailed in). It is virtually impossible for that system to fail. That system has been advocated by at least four Nobel laureate economists and several other economists and organisations, e.g. Positive Money and the New Economics Foundation. Milton Friedman advocated that system. Every advocate of full reserve advocates small variations on the basic theme. For example Friedman argued that the deposit taking half should be able to invest in government debt so that depositors get some interest. See Friedman (1960, 2nd half of Ch 3).

Under that system it is not possible for private banks to create money because it is precisely the fact of using depositors' money to back loans that enables private banks to create money.

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