

Forty Defective Criticisms of Full Reserve Banking

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Abstract. The basics of full reserve banking (FR) are set out below, followed by forty defective criticisms of FR. Each of those forty sections has: 1. A heading. 2. Where the heading does not adequately capture the nature of the criticism, there is a paragraph below the heading starting “I.e...”, which expands on the heading. 3. There are references to one or more economists who have put the relevant criticism. 4. The answer to each criticism which starts with a paragraph beginning with the word “Answer.” And finally, this work is an updated version of Musgrave (2014). About 90% of the content of this and the latter work are the same. Abbreviations used are thus. CB refers to “Central bank” and PB refers to private bank. The term “commercial bank” would be more accurate than private bank since a commercial bank can perfectly well be publically owned. But the words central and commercial unfortunately both begin with “c”. Thus the term “private bank” is arguably better. The word bank on its own refers to a PB.

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1. Introduction: Full reserve banking in brief

The term full reserve banking (FR) refers here to the system advocated by Friedman (1960, 2nd half of Ch3), Kotlikoff (2012, p.43), Levitin (2015), and Werner, et al. (2011) amongst others. That system is sometimes called “100% reserve banking” and is as follows.

The existing banking industry is split in two. One half offers depositors totally safe accounts (or accounts which are as near total safety as it is possible to get). In order to ensure that the money really is completely safe, nothing is done with the money: it is just lodged at the central bank (CB). Though possibly (as advocated by Friedman) some of that money could be invested in short term government debt. That money thus earns little or no interest, but *it is* instant access, and is used by account holders for day to day transactions.

The second half of the industry lends to mortgagors, industry and so on. But that half of the industry is funded just by shareholders, or stakeholders who are in effect shareholders. For example under Kotlikoff’s system, both halves of the industry consist of mutual funds (“unit trusts” in the UK), with the first half consisting of money market mutual funds and the second half consisting of non-money market mutual funds. And those with a stake in non-money market mutual funds (as is the case with existing non-money market mutual funds) are in effect shareholders, though they are not normally referred to as such.

As to Friedman’s system, there again, the entities making up one half of the former banking industry are separate from the entities making up the second half. In contrast, under Werner et al’s system, safe accounts and accounts which lend on

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account holders' money are offered under the same roof. However, the basic principle of all three systems is the same.

One advantage of FR is that no bank or bank like entity can suddenly fail in the same way as banks tend to suddenly fail under the existing system. Thus no taxpayer backing or subsidies are needed to underpin the system. However, any entity can decline *slowly* given poor management. The reasons why sudden failure is ruled out are as follows.

As to safe entities / accounts, the money there is near completely safe. And as to lending entities, if lending is done in an incompetent manner, all that happens is that the value of the relevant shares (or mutual fund units) falls: the actual entity does not become insolvent.

As Selgin (1988) put it "For a balance sheet without debt liabilities, insolvency is ruled out..." – which is not to suggest Selgin supports FR.

Incidentally, and returning to the above mentioned mutual funds, a particular type of bank / mutual fund in the US is being forced to obey the rules of FR, namely existing money market mutual funds. E.g. see SEC (2014).

Another important merit in FR is that it disposes of the seignorage profits which private banks (PBs) make. Those profits are effectively a subsidy of PBs in much the same way as a traditional backstreet counterfeiter is subsidised by the community at large. As the economics Nobel laureate Maurice Allais put it:

"In reality, the 'miracles' performed by credit are fundamentally comparable to the 'miracles' an association of counterfeiters could perform for its benefit by lending its forged banknotes in return for interest. In both cases, the stimulus to the economy would be the same, and the only difference is who benefits."

However, the question as to whether PBs really do enjoy seignorage profits is not simple, and is examined in more detail in section 39 below.

2. Criticisms of FR

2.1. FR limits the availability of credit.

Claimed by Van Dixhoorn (2013, p.21), Vickers (2011, para 3.21.) and Kregel (2012). See Kregel's passage starting, "In a narrow banking system..".

Answer. FR certainly limits the availability of credit in that it requires those who fund loans and investments to carry the risk involved (as opposed to the existing system where the taxpayer carries the ultimate risk). And that means the cost of funding loans and investments will rise a bit. But that rise in the cost of borrowing simply reflects the removal of a subsidy: that's the current practice of letting people have their money loaned on or invested, with the taxpayer carrying the ultimate risk.

As to the deflationary or demand reducing effect of that reduced availability of credit, that is easily dealt with by standard stimulatory measures (the measure favoured by advocates of FR, at least Friedman (1960) and Werner et al. (2011)) being to simply create new base money and spend it into the economy and/or cut taxes).

As implied above, taxpayers do not carry *all the risk* involved in lending. For example in the US there is the Federal Deposit Insurance Corporation (FDIC) which charges banks an insurance premium and reimburses depositors when a bank fails. However, the FDIC only deals with relatively small banks. Thus it's taxpayers who carry the risk when it comes to large banks. Plus even in the case of small banks, there is only one way of providing depositors with complete and total safety, and that's to have the full power of the state involved (backed by taxpayers of course). After all, any insurer (e.g. the FDIC) can face the situation where it just cannot meet all claims if enough large losses occur at once.

2. 2. *Safe account money is not invested under FR: a waste.*

I.e. as regards the safe accounts or safe entities that are set up under FR, that involves storing significant amounts of money which on the face of it could be used for loans and investments, and that is a waste.

Claimed by Vickers (2011, section 3.21).

Answer. When FR is implemented and \$Xbn is lodged in safe accounts (which comes the same thing as people storing \$Xbn under their mattresses), it costs nothing to supply the population with the sums that it wants to keep under those hypothetical mattresses. As Friedman (1960, Ch3) put it, "It need cost society essentially nothing in real resources to provide the individual with the current services of an additional dollar in cash balances."

That argument can be put the other way round and as follows. Assume FR has been implemented, and to keep things simple, assume the economy is at capacity. And assume that the above money in safe accounts is then used to fund loans. That amounts to, or causes an increase in aggregate demand, and that's not possible, assuming the economy is already at capacity. Thus to counteract that increase in demand, interest rates would have to rise. Thus the net effect would be no increase in lending. Thus the above claim by Vickers that unused money in safe accounts is money that can be actually used does not stand inspection.

2. 3. *Central bank money is not debt free.*

I.e. the claim by some advocates of FR that CB money is "debt free" is false because all money is a form of debt.

Claimed by Van Dixhoorn (2013, p.21) and Wray (2015).

Answer. In a not very important sense the above "all money is debt" idea is right: that is, base money or CB created money is NOMINALLY a debt owed by the CB to the holder of that money. Indeed British £10 notes and other notes actually state "I promise to pay the bearer on demand the sum of £10".

But of course that "promise" is a farce. That is, anyone trying to get £10 of gold (or anything else) from the Bank of England in exchange for their £10 notes, would be told to go away (perhaps assisted by the police). Thus in effect, CB created money is indeed debt free.

In contrast, for every dollar of money created by commercial banks there is, or so it seems, a dollar of debt (owed by a borrower to a commercial bank). But even that argument is debatable (See No.39 below).

It could be argued that base money is a debt in the following sense. A characteristic of a debt is that it can be used to nullify and equal and opposite debt. Thus when government suddenly demands \$X of tax from you, you can use base money to pay them (in fact it's the only money they will accept in many countries). Thus it could be argued that base money BECOMES a debt when you receive a tax demand. But that is not the normal meaning of the word "debt".

So the conclusion is that when it comes to the amount of debt associated with privately issued money as compared to publically issued money, there are important differences. The claim that publically issued money (base money) is debt-free may not be totally accurate, but it is not far from the truth. (For some slightly different arguments against Wray's "all money is debt" argument, see Lonergan (2016))

2.4. *Bank capital is expensive for tax reasons.*

I.e. increasing bank capital as occurs when FR is implemented would involve a cost in that the tax treatment of equity is more onerous than in the case of deposits.

Claimed by Elliot (2013).

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Answer. The above argument contains an extremely simple flaw, namely that tax is an *entirely artificial* imposition, and should thus be ignored. To illustrate, if government taxed red cars more heavily than blue cars, that would raise the price of red cars. But that would not be evidence that the REAL COST of producing red cars was any more than the cost of blue cars.

2. 5. *Central banks will still have to lend to commercial banks.*

I.e. to deal with any lack of availability of credit, the CB may need to lend to private banks (PBs) which exposes the CB to risks. Thus FR does not dispose of risks for taxpayers.

Claimed by Van Dixhoorn (2013). See paragraph starting “Fourth, we consider...” (p.34).

Answer. Some FR advocates claim that CBs may indeed need to lend to PBs, but most of them argue that new CB money should only be spent into the economy when there is room for stimulus. As to lending, most FR advocates believe in leaving that and interest rates to the free market. That is, if demand for credit exceeds supply, most FR advocates believe in simply letting the price of credit rise.

Moreover the logic used by the authorities in the recent crisis to justify assistance to banks is very debatable: that logic being that banks have made large losses, therefore they should be supplied with enough taxpayers’ money to enable them to return to the amount of lending that existed prior to the crisis.

In any normal industry, the fact that losses are made is a good indication that the industry is too large and needs to contract. And as to the fact that if the total amount of lending declines if the banking industry declines which in turn reduces aggregate demand, that is easily dealt with by standard stimulatory measures.

Indeed, according to the former governor of the Bank of England (King, 2010) the assets of banks in Britain are now *ten times* what they were relative to GDP in the 1960s: additional evidence that the banking industry should be shrunk.

Of course, assuming we continue with the existing banking system, giving banks enough assistance during a crisis to prevent a *total collapse* of an economy or the world economy is justified. But the recent trillion dollar bailout of banks is just additional evidence of the flaws in the existing system: it’s not an argument for CBs to lend to commercial banks on a regular basis.

Moreover, the lender of last resort facility available to commercial banks is just one of forms of preferential treatment (i.e. subsidy) enjoyed by commercial banks: other industries do not enjoy the same luxury.

2. 6. *FR stops banks producing free money from thin air which can fund investments.*

I.e. when a private bank grants a loan, it can be argued that the relevant money comes out of thin air and that money can be used to fund investments. Thus (so it might seem) people do not really need to save in order to fund investments.

Claimed by Pettifor (2014) and Kregel (2012). See Kregel’s passage where he claims that FR would create a system “in which all investment decisions....” See Pettifor’s paragraph starting “Unlike commodity money...”.

Answer. The idea that we don’t need to save in order to provide ourselves with investments (houses, office blocks, etc) is too good to be true. And as the old saying goes, if anything seems to be too good to be true, it probably is.

If an economy is at capacity and a bank grants a loan, the latter will raise demand unless someone abstains from spending (i.e. saves). And if the economy is at capacity and demand rises, then inflation rises. As a result the central bank will raise interest rates, which cuts lending, borrowing and demand. Thus the net effect is zero: back to square one. Thus the idea that commercial banks can create money

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or wealth out of thin air which enables someone to make real investments is a myth.

The latter “zero effect” obviously plays out slightly differently depending on *exactly how* the authorities counteract the above increase in demand (e.g. they could counteract it with a fiscal tightening up). Plus the zero effect would play out differently depending on whether the country was on the gold standard or not. But certainly the idea that we can enjoy the benefits of new investments without having to save or abstain from consumption to fund those investments is nonsense.

In contrast to the above assumption that the economy is at capacity, the alternative and equally valid assumption is that it is *not at* capacity. In that case there is indeed a free lunch to be had. That is, as suggested by Pettifor and Kregel, private banks can produce money from nowhere which can fund investments, and there is no need to cut down on current consumption to pay for that investment. What happens is that unemployed resources (e.g. unemployed labour) is put to work to create those investments.

However, there are two problems with that argument. First, private banks act in a *pro-cyclical* fashion: that is in a recession, far from lending out more money to fund investments, they do the opposite, namely cut down on lending. And come a boom, they create and lend out money like there is no tomorrow, thus exacerbating the boom: exactly what we do not want. Thus the implication made by Kregel and Pettifor namely that PBs help us out of recessions is very questionable.

Second, the fact that private banks in practice do not give us the free lunch alluded to by Kregel and Pettifor does not matter at all because the state or central bank can provide the free lunch. That is, the state can implement stimulus in some form or other. Indeed, there is no particular reason to assume, given a recession, that the cause is inadequate investment: that is, does it not make more sense to implement *general* stimulus, as a result of which businesses where they see fit will doubtless invest more?

2.7. *Investments under FR might not be viable.*

Claimed by Kregel (2012). See his passage starting “First, the real investments chosen....”

Answer. The advocates of FR do not claim that investors will be any more competent under FR than under the existing system. Clearly under both systems there are, or will be competent and incompetent investors.

2.8. *FR will not reduce pleas by failing industries to be rescued by government.*

Claimed by Kregel (2012). See his passage starting “There would always be a risk...”

Answer. Advocates of FR do not claim that FR is a solution to corruption: in particular, politically well-connected individuals trying to extract taxpayers’ money from politicians.

2.9. *The cost of converting to FR will be high.*

Claimed by Van Dixhoorn (2013, p.21 and by Warner (2014).

Answer. Assuming a country benefits from FR and continues to benefit for the next century or two, then transition costs are near irrelevant compared to the long term benefits. Moreover, as one advocate of FR (Friedman, 1960, Ch.3) put it “There is no technical problem of achieving a transition from our present system to 100% reserves easily, fairly speedily, and without serious repercussions on financial or economic markets”.

2.10. *Central bank committees won’t be politically neutral.*

I.e. FR involves some committee of economists (and perhaps non-economists) deciding on how much money to create and spend, or deciding on other forms of

stimulus, and there is no guarantee such a committee will be independent or politically neutral.

Claimed by Van Dixhoorn (2013, p.22) and by Pettifor (2014). See Pettifor's paragraph starting "Wolf's proposal is problematic....".

Answer. There is no reason why this should be any more or less of a problem than with *existing* committees that determine stimulus. For example there is the Bank of England Monetary Policy Committee which has a *huge influence* on stimulus (via interest rate adjustments, quantitative easing, etc). Other countries obviously have similar committees. And those committees are certainly not supposed to stray into political territory. But the dividing line between the political and the strictly economic will never be totally clear. However (and to repeat) that would be no more of a problem under FR than under the existing system.

Moreover, Dyson & Jackson (2013) (and doubtless other advocates of FR) are *very specific* on the point that the above sort of committee should *never* interfere with political decisions. The exact way this is done under Dyson's system is for the "committee" to decide *how much* money should be spent net of changes tax into the economy over the next six months (or some other period), while the *exact way* that money is spend (or whether the adjustment to net spending comes in the form of adjustments to tax) is left *entirely* to politicians and voters.

Also, the form of stimulus advocated by most supporters of FR (i.e. creating new base money and spending it and/or cutting taxes) comes to exactly the same thing as a form of stimulus that has been applied in very large doses over the last two or three years: that is fiscal stimulus followed by quantitative easing. Thus if political interference by the above sort of committee is inevitable under FR, one has to wonder how those sort of committees have managed to avoid interfering in politics to any significant extent over the last few years.

2.11. Administration costs of FR would be high.

Claimed by Van Dixhoorn (2014) and Krugman (2014). See Krugman's paragraph starting "Cochrane's proposal calls for...".

Answer. Obviously the central bank or some other body of bank regulators would have to do a fair amount of auditing of commercial banks to make sure they were obeying the rules. But such auditing is necessary under the *existing system*. Moreover, compare that with the rules which make up the Dodd-Frank regulations: those stand at 20,000 pages and counting (several times the length of "War and Peace"). And then there is the near incoherent ring-fence proposals put by Vickers (2011). Compared to those two, FR is simplicity itself.

For a scathing indictment of Vickers, see Kotlikoff (2012). As to Dodd-Frank, the head of the Dallas Fed (Fisher, 2013) said "We contend that Dodd-Frank has not done enough to corral "too big to fail banks" and that, on balance, the act has made things worse, not better." And for two more criticisms of current attempts at bank reform see Schiller (2014) and Brown (2013).

2.12. The cost of current accounts will rise under FR.

Claimed by Van Dixhoorn (2013, p.22) and Aziz (2014).

Answer. It is true that under FR, those with transaction / safe / current / checking accounts get little or no interest: i.e. probably less interest than on such accounts under the existing system. However interest under the existing system only comes as a result of being able to have one's money loaned on or invested with the taxpayer carrying the ultimate risk. But the latter is a totally unwarranted "have your cake and eat it" subsidy.

If restaurants had been subsidised for the last century and that subsidy was removed, then (to use Van Dixhoorn's phrase) "losses would be imposed on" those eating at restaurants. But that would not justify continuing to subsidise restaurants.

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A possible solution to the above problem would be to allow bank customers to do debit card transactions or draw cheques on investment accounts (that's accounts which fund loans to mortgagors, businesses, etc). That would be the equivalent of telling your bank under the existing system keep the balance in your current or checking account to a minimum: i.e. telling them to put any surplus funds into a term or deposit account. However banks would charge for that service, thus costs for customers would probably not be reduced: probably one of the reasons why that sort of service is not normally available from banks under the existing system.

2.13. *FR is dependent on demand injections.*

Claimed by Kregel (2012) and Fontana & Sawyer (2016, section 3).

Answer. One wonders how Kregel (2012) and Fontana & Sawyer (2016) would describe the trillion dollars recently used to bail out the bank industry and the large amounts of stimulus needed to rectify the effects of the recent crisis. Kregel uses the phrase "chronically dependent on demand injections". The phrase "chronically dependent" would seem more appropriate to the existing banking system, rather than to FR.

Moreover, stimulus costs nothing in real terms: to put it figuratively, printing and spending dollar bills (and/or cutting taxes) costs nothing. (See the quote from Friedman in No.2 above).

2.14. *The effect of FR on inflation and unemployment is unclear.*

Claimed by Van Dixhoorn (2013). As Van Dixhoorn put it: "it would be difficult to predict what the ultimate effects on output and inflation would be..".

Answer. There is *no need whatever* to predict what the effect on output or inflation would be because the latter two can be adjusted (just as they are under the existing system) by adjusting stimulus. That of course is done under the existing system by adjusting interest rates, quantitative easing, the size of the deficit, etc. In contrast, most advocates of FR advocate a slightly different form of stimulus (which actually amounts to fiscal stimulus plus QE). But that's a minor technical point.

Moreover, under the *existing system*, governments have only the haziest ideas as to what inflation and unemployment will be five years from now: e.g. there might be another credit crunch, or there might not. Thus the above criticism applies to the *existing system* as much as it does to FR.

2.15. *The state cannot be trusted with peoples' money.*

I.e. the so called "safe accounts" set up under FR are not entirely safe.

Claimed by (Van Dixhoorn, 2013) section VIII, p.32.

Answer. Clearly governments are not entirely reliable and for two reasons. First, governments may cause excess inflation, which means that sums deposited in safe accounts lose their value, and second, governments have been known to renege on promises to return sums they have borrowed or which have been lodged with them. However, neither of those two points stands inspection.

As to inflation, if money lodged at the central bank is losing its value, then money lodged at a private bank will lose value at exactly the same rate.

And as to the point that governments can renege on promises to return monies lodged with them, the sort of government which does that is quite likely to also confiscate monies lodged at private banks (sometimes known in polite circles as "bailing in depositors").

Moreover, FR is a system suitable for a country with a reasonably responsible government. Obviously where government is near non-existent or chaotic, citizens would be well advised to keep their savings under their mattress and/or in the form of valuables like some rare metal.

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And finally, under the existing system, millions of UK citizens seem to be happy to lodge a portion of their money with National Savings and Investments, a state run savings bank. That is, the reality is that a significant proportion of the population in Britain regard government as being responsible enough to be entrusted with a portion of their wealth.

2.16. *FR will reduce innovation by banks.*

Claimed by Van Dixhoorn (2013). Van Dixhoorn's actual words are: "will reduce the amount of innovation in the payments system".

Answer. Under FR, banks compete with each other exactly as they do under the existing system. Thus why there is less incentive to innovate is a mystery. Van Dixhoorn does not explain.

Also the above claim about lack of innovation is hard to square with the fact that at least two advocates of FR (Dyson, 2016 and Niepelt, 2016) strongly support what is probably the biggest "innovation in the payments system" for a hundred years, namely a system where anyone can have an account at the central bank with such accounts being run on block-chain technology.

The reason for that support is that the latter type of accounts and payments system comes to the same thing as the safe accounts advocated by FR enthusiasts. Thus if those central bank accounts came to dominate the system, then FR would have been partially implemented.

Incidentally, Niepelt is not an *ardent* supporter of FR in the same way as Dyson is. But Niepelt *does say* the above CB block-chain system would ease the introduction of FR.

2.17. *Lenders will try to turn their liabilities into "near-monies".*

Claimed by Van Dixhoorn (2013) p.33.

Answer. Obviously some lenders will try to do that. In fact advocates of FR in the 1930s were well aware of that potential problem as are present day advocates of FR, Dyson & Jackson (2013) in particular. However there is a fundamental reason for thinking that while obviously a finite amount of near money creation will always take place, the actual amount of that money creation will never be significant. The reason for that stems from the text book definition of the word money, which is something like "anything widely accepted in payment for goods and services or in settlement of a debt". The crucial phrase there is "widely accepted".

Large banks or "money creators" (e.g. Barclays or Chase) are widely recognised, thus their liabilities are widely accepted. But it is impossible for those large organisations to escape the attention of the authorities. To illustrate if Barclays said in its promotional literature something like "We offer you the combined advantages of instant access to your money, plus we guarantee you'll get £X back from us for every £X you deposit, plus you get a decent rate of interest because we will lend out your money", auditors and/or the authorities would have to be stupid not to notice that.

In contrast, there will doubtless always be small shadow banks which manage to issue liabilities that are used as money, but those sort of organisations are not widely recognised. Thus their liabilities are not (to quote the above definition of money) "widely accepted". Thus even if they do manage to issue near monies, those liabilities would not be very "money like".

2.18. *Are debts owed by one non-bank firm to another a form of money?*

Van Dixhoorn (2013) - claims they are. See paragraph starting "The sector will..." p.34).

Answer. The definition of the word money is something like "anything widely accepted in payment for goods and services".

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Now the liabilities of banks are “widely accepted” because they are *specifically designed* to be easily transferrable. In contrast, it is quite untrue to suggest, as Van Dixhoorn does that an ordinary trade credit is a form of money. To illustrate, if firm A delivers goods to firm B worth \$X, B is then indebted to A to the tune of \$X. And B could issue an IOU in payment. But is that liability (the IOU) likely to be of any use to A for the purposes of “paying money” to some third party? It is unlikely. Thus an ordinary trade credit just isn't money in a large majority of cases.

The latter form of “IOU” money creation was much more common in the 1700s and 1800s: the IOUs took the form of bills of exchange. But those are rare nowadays.

But that is not to say that after implementing FR there would be a total absence of types of money other than what the average household or firm regards as money. In particular, in the world's financial centres various types of debt serve the purpose of money: e.g. short term government debt. However for about 95% of households and the large majority of firms, particularly small and medium size ones, there is only one form of money and that is CB created money and money created by well known PB which trades at par with CB money.

2.19. *Advocates of FR are concerned just with retail banking.*

Claimed by Van Dixhoorn (2013, paragraph starting “Third the critics have..” p.34 and Krugman (2014).

Answer. While VanDixhoorn claims the advocates of FR concentrate on the “small saver”, she cites no evidence to support the claim. Nor does Krugman.

Having read a large amount about FR, my impression is that the advocates of FR are concerned with *general principles*. One of the main principles is that banks should not promise to return \$X to depositors for every \$X deposited when that money is loaned on in a less than entirely safe manner. Whether the depositors are large corporations with several million deposited, or pensioners who have deposited much smaller amounts is wholly irrelevant.

2.20. *The government and/or central bank will not be better than the market at regulating the amount of money.*

Claimed by Warner (2014) passage starting “..it takes quite a leap to think..”.

Answer. We have just been thru a crisis caused by a catastrophic failure of private banks to regulate the amount of money / loans in a stable manner. Thus the above alleged weakness in FR flies in the face of reality.

Moreover, most of those who make the above criticism seem quite happy for government and CB to regulate aggregate demand (e.g. by regulating interest rates). And that regulation is necessary *precisely because* the free market produces booms and busts.

Of course governments' and CBs' efforts to tone down booms and busts are nowhere near 100% competent. But, the people who make the above criticism clearly think that the latter efforts are better than nothing.

An even more glaring self-contradiction inherent to the above criticism is that the *form of stimulus* effected over the last two or three years (fiscal stimulus followed by QE) comes to *exactly the same thing* as the form of stimulus advocated by most FR advocates.

2.21. *FR would drive business to unregulated sector.*

Claimed by Krugman (2014) passage starting “If we impose 100% reserve..” and by Diamond & Dybvig (1986).

Answer. Clearly if government regulates just one part of an industry, that will cause a number of operators to flee to the unregulated sector. And that has indeed happened over the last decade. That is, there has been a shift of business away from

official banks and into the shadow bank sector. But the simple solution to that is to regulate any entity above a certain size that amounts to a bank.

As the former head of the UK's Financial Services Authority, Turner (2012) put it: "If it looks like a bank and quacks like a bank, it has got to be subject to bank-like safe-guards."

As for the fact that the unregulated sector contains numerous small entities which the authorities might not be able to keep tabs on, that point was dealt with above. Briefly, the smaller an entity, the less widely accepted will its liabilities be, thus the less money like will those liabilities be.

Also most FR advocates do not advocate a complete ban on forms of money other than state issued money: most FR advocates favour *local currencies* (currencies issued by individual cities and similar small geographical areas).

2.22. It wasn't just banks that went wrong in 2008: also households became over-indebted.

Claimed by Krugman (2014).

Answer. So who were those households indebted to? It was banks (or those who banks had sold mortgage backed securities to). It was banks who sold those "No Income No Job or Assets" mortgages.

Under FR, if a lending institution makes silly loans, all that happens is that the shareholders or stakeholders in the entity find the value of their stakes decline. The entity does not go insolvent.

2.23. Creation of liquidity / money is prevented.

Claimed by Diamond & Dybvig (1986).

Answer. True, but that is the whole object of the exercise. That is, advocates of FR claim that just the CB should create money, while commercial banks continue to act as intermediaries between borrowers and lenders much as they do now (with the exception that lenders carry all losses when poor loans are made rather than the taxpayer carrying some of those losses as occurs at present).

Put another way, CBs can and do create money / liquidity just as much as PBs. Thus the important question is: should we have just the CB doing it, or CBs plus PBs or just PBs? Given that we already give CBs doing the job of countering the instabilities created by the free market (including PB money creation), why not just go the whole way and have just CBs doing the job?

Having both type of bank do the job is similar to allowing your child access to the steering wheel of a car: you can no doubt counteract any silly moves the child makes (the equivalent of CBs countering the "silly moves" of PBs), but it's simpler just to bar children / PBs any access to the controls.

2. 24. Funding via commercial paper would be more difficult under FR.

Claimed by Diamond & Dybvig (1986).

Answer. Funding via commercial paper would certainly become more difficult of the rules applied under FR were extended from banks to non-bank corporations. But there is not much reason to do so.

It is true that borrowing specific sums of money (which is what is involved in commercial paper) is a more risky method of funding a corporation that funding via shares. But mass collapses of non-bank corporations just do not seem to have been a problem over the last two centuries in contrast to catastrophic collapses (but for the intervention of governments) of banking systems.

Also, liabilities issued by non-bank corporations are not by any stretch of the imagination a form of money, and it is money printing by PBs which is one of the root flaws in the existing bank system.

2. 25. FR is nearly the same as monetarism.

Claimed by Pettifor (2014), and Fontana (2016, section 2.2).

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Answer. It is true that advocates of FR (just like the advocates of Modern Monetary Theory) claim that the size of the stock of base money (or more generally “Private sector net financial assets” to use MMT parlance) influences demand. To that extent, both groups have something in common with monetarists.

However, advocates of FR (like the majority of economists probably) also claim that *the process of* spending extra money into the economy also has an effect. I.e. they claim fiscal boost has an effect. That is, if government decides to hire an extra thousand employees by this time next month and pay for that with new money, then employment goes up by a thousand, all else equal (assuming the extra money is not inflationary, i.e. assuming the economy was below capacity before the extra thousand were hired). And that all happens despite there being no “monetary” effect (at least initially). That is, during the first few months of the above thousand employees work, there is a negligible increase in the money supply.

2.26. Deposit insurance and lender of last resort solves existing banking problems.

I.e. there is no need for FR.

Claimed by Aziz (2014).

Answer. Lender of last resort (a luxury not available to other industries) is a *subsidy* of the bank industry, particularly where the loans made by CBs to PBs are at a zero or near zero rate, as occurred at the height of the recent crisis. That’s in contrast to the penalty rate advocated by Walter Bagehot.

Same goes for deposit insurance where that is funded by taxpayers, as was the case in the UK till recently.

As it explains in the introductory economics text books, subsidies misallocate resources, that is, they reduce GDP (unless there is a very good social justification for a subsidy.)

Incidentally, and contrary to common perception, Walter Bagehot did not approve of lender of last resort (Bagehot, 1873: final chapter). He regarded it as something that was so ingrained in the system that it would be impossible to remove.

It can of course be argued that the FDIC is a self-funding insurance system, and hence that there is no subsidy element there. Well the answer to that is that there is no such thing as a totally reliable private sector self-funding insurance corporation. Reason is that the latter type of insurers can and do go bust. In contrast, the near 100% safety that comes from state owned insurance systems like FDIC derive from the fact that the taxpayer backs up the FDIC. And taxpayer backing equals a subsidy.

2.27. There is no demand for safe or warehouse banks.

I.e. there has been no demand for throughout history for banks which simply lodge money without lending it on and thus earning depositors some interest. Thus there would be no demand for the safe accounts under FR.

Claimed by White (2003) and Van Dixhoorn (2013).

Answer. First, the above contradicts the equally common claim by opponents of FR that there’d be a stampede for safe accounts when FR is introduced. See No.28 below.

Second, there is good evidence as to what would happen that can be gleaned from what depositors at US money market mutual funds have done recently as a result of the rules of FR being imposed on MMMFs. It seems that a majority of depositors are opting for safe accounts rather than accounts where they bear the costs of poor loans and investments.

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Third, accounts already exist in some countries (e.g. National Savings and Investment accounts in the UK) which are essentially the same as the safe accounts envisaged under FR. Billions have been deposited at the NSI.

Fourth, to the extent that there *is a limited* demand for warehouse banking since WWII, that is hardly surprising. Reason is that taxpayer funded backing for conventional banks enables ordinary depositors to enjoy total safety while getting interest. Why go for an account that pays no interest when you can get interest gratis the taxpayer?

2.28. *FR would cause a stampede to safe accounts.*

I.e. few existing depositors would want their stake in their bank to be effectively converted to a shareholding.

Claimed by Dowd (2014).

Answer. The reality is that shareholders (in corporations in general rather than specifically in banks) do not demand a particularly high rate of return compared to depositors or bond-holders.

Moreover, the above claim by Dowd contradicts the claim made by several opponents of FR, namely that there'd be no demand for safe accounts - see No.27 above.

2.29. *FR would raise the cost of funding banks.*

I.e. it might seem that the cost of funding banks rises because shareholders demand a bigger return on their investment than depositors. Thus if the proportion of bank funding that comes from shares as opposed to deposits is increased then the cost of funding banks would seem to rise.

Answer. The flaw in the above argument was set out by Franco Modigliani and Merton Miller. As they pointed out, the risks involved in running a bank which performs a given set of activities is a GIVEN. Thus the price charged by those covering the risk involved is also a given. Thus increasing the number of people who cover that risk has no effect on the total charge they make for covering the risk.

But even if FR did increase the cost of funding banks, that is explained (wholly or partially) by the removal of a subsidy from the bank industry, namely the bank industry's right to print or create money. Removing a subsidy (unless there is a very good social justification for the subsidy) increases GDP.

2.30. *Fractional reserve is not fraudulent.*

I.e. Fractional reserve (that is the existing banking system) has been going for centuries and is not widely perceived as fraudulent.

Claimed by White (2003).

Answer. The first problem there is that White in the latter work doesn't say what the alleged fraud actually is. Instead, he refers readers on his first page to about ten books and articles which apparently set out the fraud. It is thus impossible to know what fraud or alleged fraud White refers to.

Second, given the number of works he cites that apparently set out the fraud, it's unlikely those works all agree with each other. Indeed, there are several popular "fraud" charges made against fractional reserve which are clearly invalid.

It's thus near impossible to deal with his claim that for fraud to exist, someone must be duped. Reason is that there are all degrees of "duping" from slight misrepresentation to serious and carefully thought out fraud. And the extent of misrepresentation doubtless varies depending on which of the fraud charges levelled against fractional reserve one is considering.

However, as a second best, let us consider White's arguments as they relate a "fraud" charge against fractional reserve which does have some substance, and which is as follows.

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A fractional reserve bank promises to return to depositors the exact sum deposited (maybe plus interest and maybe less bank charges). But of course the flaw or fraud there is that the money is loaned on or invested by the bank and that involves the risk that the loans or investments go bad. And sure as night follows day, once every twenty or thirty years the loans do go wrong, and one or more large banks can't repay all the money they owe depositors. And as to small banks in the US, they go bust at the rate of about one a week.

So how much fraud or misrepresentation takes place there? Well commercial banks certainly do not advertising the fact that there is a one in twenty chance that depositors will lose their money! Quite the reverse: their publicity normally stresses the safety of the relevant bank.

Of course the contract governing an account at a typical bank, the small print in particular, may say something different. But that's near irrelevant. The typical bank customer does not read the small print - and probably wouldn't understand it if they did. It is thus indisputable that banks are guilty of a certain amount of misrepresentation or to put it more strongly - "fraud".

2.31. A 25% or so capital ratio is good enough.

I.e. a 25% or so ratio brings near total safety, which means there is nothing to be gained from a 100% ratio, which is what FR involves.

Claimed by Wolf (2012). Wolf's exact words were "I accept that leverage of 33 to one, as now officially proposed is frighteningly high. But I cannot see why the right answer should be no leverage at all. An intermediary that can never fail is surely also far too safe."

Answer. First, under FR, "intermediaries" *can fail* in the sense that shareholder / stakeholders can lose a sizeable proportion of their stakes. Indeed, in theory they can lose everything. Plus they can fail in the sense that a poorly performing intermediary can be taken over with the existing management sacked, as is normal for non-bank corporations which perform poorly.

Second, as explained in section 29 above, the whole "high cost" idea is very debatable.

Third, the Vickers commission (of which Martin Wolf was a member) *claimed* such costs were involved (see Vickers, 2011). They claimed that total safety would suppress bank lending, which in turn would suppress economic growth. However, any such "suppression" can be countered by standard stimulatory measures (or the specific stimulatory measures advocated by those who argue for FR).

Fourth, if the capital ratio is raised to just 25% (or any other non-100% level) banks will simply bribe and cajole politicians over the years into reducing the ratio back down to the 3% or so that has obtained over the last decade or so. In contrast, 100% is a clear line in the sand.

Indeed, George Osborne, Britain's finance minister at the time of writing, has campaigned against *any improvement whatever* in the capital ratio. The fact that his political party, the Conservatives, is partially funded by banks is of course entirely coincidental (See Wolf, 2013).

And on the subject of "bribes and cajoling" it should be born in mind that the British finance industry spends £93m a year on lobbying, according to Mathaison, Newman, & McClenaghan (2012), while in Europe as a whole, there are 1,700 lobbyists working for banks (Corporate Europe Observatory, 2014).

Fifth, assuming the idea set out at the start above, namely that it's money creation by PBs that is one of the main flaws in the existing system (because that money printing amounts to a subsidy of PBs), then the capital ratio needs to be 100%. That is, if PBs can to any extent accept deposits, lend on those deposits then money multiplication takes place.

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As Cochrane (2013) argued, the best and cleanest system is to simply remove all runnable liabilities from the liability side of bank's balance sheets, i.e. implement the 100% ratio.

2.32. *A Glass-Steagall or Vickers type split is better than an FR type split.*

I.e. splitting the banking industry into a retail half and investment half is better than the FR type split: splitting the industry into safe accounts and investment accounts.

Claimed for example by Vickers (2011) and Pettifor (2014). See Pettifor's paragraph starting "Next, bank's retail arms..."

Answer. Vickers sets out three basic reasons for separating investment from retail banks on p.9 & 10. Their first reason starts "structural separation should make it easier and less costly to resolve banks that get into trouble". Plus Vickers claims that "Investment banks can fail. Retail ones can't be allowed to." Now that rather conflicts with Vickers's claim that some investment banks (as is the case with retail banks) cannot be allowed to fail (3.28).

Indeed, the above first reason goes on to say that each case or "failing bank" should be treated differently or treated on its merits. But that makes a mockery of the investment / retail split. You might as well categorise banks according to which letter of the alphabet their names start with and then "treat each case on its merits".

Their second reason is that the crisis stemmed largely from the investment banking sector and that "Separation would guard against the risk that these activities (i.e. problems in the investment banking sector) might de-stabilise the supply of vital retail banking services."

Well first, Northern Rock was a retail bank, and it got into trouble. And second and as regards those "vital retail banking services", Vickers admits (to repeat) that some investment banks are also "vital". So Vickers's distinction between retail and investment banks is largely spurious.

Third, Vickers claims "The proposed form of separation also gives scope for UK retail banking to have safer capital standards than internationally agreed minima.."

Note Vickers does not claim that their proposals render retail banks 100% safe: in other words such banks would still have to have taxpayer funded backing, i.e. such banks would still need to be subsidised (which of course conflicts with Vickers's claim that taxpayers should not subsidise banks). In contrast, under FR, bank accounts which depositors want to be totally safe really are totally safe, thus no taxpayer funded backing or subsidy of those accounts is needed.

Incidentally, the claim in the paragraph just above that taxpayer funded backing equals a subsidy is not *necessarily* valid: that is, it is clearly possible to charge banks for such backing. However, the idea that politicians (in receipt of "donations to election expenses" from bankers) will ever actually make that charge realistic is itself plain unrealistic.

In short, Vickers's proposals are a mixture of happy talk and self-contradiction, all couched of course, in impeccable English.

In contrast, under FR, the entities that arise to replace the existing banking industry cannot suddenly fail. Thus there is no need for bank subsidies. In short, FR achieves the objectives that Vickers sets itself, whereas Vickers fails to achieve its own objectives.

2.33. *Bank shareholders will demand a high return to reflect their uncertainty about what a bank actually does.*

I.e. bank management knows more about its bank than shareholders or potential shareholders, thus the latter will want insurance against possibly being

misinformed by bank management, thus equity is an inherently expensive way of funding banks.

Claimed by Elliot (2013).

Answer. Depositors and bond-holders who fund *existing* banks suffer from *exactly the same* asymmetric information problem. Of course depositors are protected from the latter problem by deposit insurance and the too big to fail subsidy, but the latter two are entirely artificial and unjustified subsidies. (That's where deposit insurance is funded wholly or partially by taxpayers rather than by banks themselves).

2.34. *Irresponsible lending under FR would be as harmful as under the existing system.*

Answer. There is a big difference between a bank becoming *insolvent*, and its shares declining in value. As the former governor of the Bank of England (King, 2010) put it:

“And we saw in 1987 and again in the early 2000s, that a sharp fall in equity values did not cause the same damage as did the banking crisis. Equity markets provide a natural safety valve, and when they suffer sharp falls, economic policy can respond. But when the banking system failed in September 2008, not even massive injections of both liquidity and capital by the state could prevent a devastating collapse of confidence and output around the world.”

Thus the “harm” done by irresponsible lending under FR is significantly less than under the existing system.

2.35. *FR reduces commercial bank flexibility.*

I.e. under the existing system, an individual bank can lend without being too concerned about whether it has enough deposits to fund those loans, plus the commercial bank system as a whole can expand the total amount it lends without reference to government or CB. And as to those amounts loaned out, they of course just become deposits somewhere in the commercial bank system. That is, loans precede deposits.

Answer. As to the above first scenario (an *individual* bank), that will result in the bank losing reserves to other banks, i.e. becoming indebted to other banks. And there is nothing wrong with that if the indebted bank has found particularly worthwhile or viable borrowers.

But under FR, almost exactly the same happens. That is, any bank can expand the amount it lends if it can attract funds from somewhere: other banks, shareholders, etc. In other words in both cases, the bank which is expanding faster than others becomes indebted to other entities: the only difference is that under FR the latter bank has to line up its creditors *before* it increases its loans, whereas under the existing system those creditors come into existence *after* the new loans are made.

Aggregate lending.

As to the second scenario (the bank system as a whole) it is hard to see any good reason for any significant gyrations in the *total amount* that commercial banks lend. In fact it is precisely such gyrations which are half the problem. To illustrate, in the three years prior to the crunch, commercial bank created money / loans in the UK were expanding much faster than normal and much faster than the stock of CB created money (base money). And that resulted in a boom followed by a bust.

Then, as always happens in busts, commercial banks did exactly what we do not want them to do, i.e. put the whole process into reverse: they called in loans, etc. In short, the commercial bank system *exacerbates* the boom bust cycle.

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To summarise, when there is a faster than usual expansion in the amount of commercial bank lending, that's probably a sign of a boom or bubble. In contrast, if the money supply is under the control of the CB, it can expand the money supply in a way designed to be in the best interests of the country as a whole: i.e. in accordance with what inflation and unemployment are doing.

Moreover, opponents of FR (i.e. defenders of the existing banking system) are perfectly happy for CBs and governments to try and control the boom / bust cycle via interest rate adjustments, quantitative easing and so on, and the latter necessarily involves influencing the amount of commercial bank lending. Those opponents of FR thus need to explain why they object so much to commercial bank lending being controlled in a slightly different way, as occurs under FR.

Profitable loans.

An apparent excuse for the flexibility that the existing bank system affords is that it enables banks to make particularly viable or profitable loans *quickly*. The answer to that is that under FR, as indeed under the existing system, banks would give priority to the most viable loans. Thus any lack of flexibility stemming from FR would not stop viable loans: i.e. it's the least viable loans that would not take place.

2.36. FR would not stop bank runs.

I.e. given suspicions about a bank / lending entity, it's shares would be dumped in the same way as depositors withdraw money en masse from a traditional bank about which there are suspicions.

Answer. Runs on stock exchange quoted shares just do not happen. Reason is that given bad news about a firm or corporation, the value of its shares drop before anyone has time to sell (with the possible exception of some inside traders). When the oil multinational BP caused a very large oil spill in the Gulf of Mexico a few years ago, it's shares were immediately marked down: there was no "run" on its shares.

In contrast, given bad news about a conventional bank, the bank tries to pretend that its liabilities are still worth 100 cents in the dollar until it finally has to admit they are not, at which point it closes its doors. That is, the banks creditors have a motive to get their money out before the doors close.

As Cochrane (2013) put it, "the financial system needs to be reformed so that it is not prone to runs."

2.37. Vickers demolished the arguments for FR.

Answer. The Vickers commission was the main official response to the 2007/8 bank crisis in the UK. One of the flaws in the arguments put by Vickers (2011) were set out in No.2 above. That's the argument that FR involves putting large amounts of money in to safe accounts or entities where such money is not loaned on. And that that, on the face of it, is a waste of resources.

Another point made by Vickers, also dealt with above, is the claim that since FR curtails borrowing and lending somewhat, the latter activities would move to the less regulated sector. That point was addressed in No.21 above.

Further flaws in Vickers's arguments are as follows.

In section 3.22, Vickers makes a whole string of errors, so let us run through it sentence by sentence. (Vickers's actual words are in italics below).

"Limited purpose banking²¹ offers an alternative solution, under which the role of financial intermediaries is to bring together savers and borrowers but risk is eliminated from the intermediary because it does not hold the loan on its books. All of the risk of the loan is passed onto the investors in the intermediary (or fund), so that effectively all debt is securitised. However, limited purpose banking would severely constrain two key functions of the financial system. First, it would constrain banks' ability to produce liquidity

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through the creation of liabilities (deposits) with shorter maturities than their assets.”

Now what’s the word “constrain” doing there? FR does not “constrain banks’ ability to produce liquidity”. It totally destroys banks’ ability to create money / liquidity: the job of creating money / liquidity is handed over to the CB. (Incidentally, “limited purpose banking” is just an alternative name for FR.)

As to “securitisation”, FR does not necessarily involve securitising the loans that banks or lending entities make (though banks would be free to securitise loans if they chose to).

Moreover, there is an absolutely fundamental point here not addressed by Vickers, namely: is the move towards a regime where borrowing is more difficult a move towards a genuine free market, or a move *away from* free markets? The reason that is an important question is that it is widely accepted in economics that GDP is maximised where prices are at free market prices, unless there is a clear social justification for a subsidy or a tax (e.g. children’s education and alcoholic drinks respectively).

Now there is a simple reason for thinking that moving away from the existing bank system and towards FR is a move towards a free market. It is that the existing bank system is subsidised: indeed it is so inherently fragile that it *has to be backed by taxpayers*. Plus the right to create or print money is a subsidy of PBs for reasons set out in the quote from Huber in section 39 below.

Next, the “21” near the start of the above quote is a reference to Kotlikoff’s version of FR, and Kotlikoff (like other advocates of FR) does not advocate simply turning the existing banking industry into lending entities funded just by shareholders, as Vickers suggests. FR (to repeat) involves splitting the industry into *two halves*, one of which consists of lending entities funded just by shareholders, while the other offers totally safe transaction accounts.

Vickers’s next sentence reads: *The existence of such deposits allows households and firms to settle payments easily.*”

Now amazing as it might seem, FR does not involve the destruction of all bank accounts which “allow households and firms to settle payments easily”. All FR does is (to repeat) is to have the CB rather than commercial banks create the units / money making up those accounts. Plus under FR, accounts which are used to “settle payments easily” are separated from accounts where relevant sums are loaned on or invested. Next, Vickers claims:

“Second, banks would no longer be incentivised to monitor their borrowers, and it would be more difficult to modify loan agreements. These activities help to maximise the economic value of bank loans.”

Answer. Where loans really are securitised, then obviously “modifying loan agreements” is difficult. But (to repeat) securitisation is not an essential ingredient of FR. (To be accurate, securitisation is inherent to FR in the sense that the risk involved in loans is carried by those who buy stakes in lending entities. But presumably Vickers means securitisation in the sense of offloading the risk to some third party which has not an inherent part of a particular lending entity.) At any rate, on that interpretation of what Vickers means by securitisation, there is no obvious reason why the amount of securitisation under FR would be much different as compared to the existing system. And as to the fact that banks are not “incentivised to monitor their borrowers” where loans are securitised, that is no more a problem under FR than under the existing system.

2.38. *Regulating loans is better than FR.*

I.e. an obvious way to make banks safer is to impose more stringent regulations on lenders for example insisting on minimum equity stakes for mortgagors (i.e. insisting on maximum loan to value ratios for mortgagors).

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Answer. The first problem there is that that is relatively easy to do in the case of mortgages, but not in the case of loans to businesses. For example some bank managers, quite rightly, lend to particular businesses because they know the relevant business proprietors and know the latter to be competent and trust-worthy. Setting up rules and regulations to cater for those elusive characteristics of business proprietors is impossible.

Second, even if it were possible to forbid the making of risky loans, it is hard to see the case for doing so where lender and borrower now what they are doing, and assuming there are no harmful systemic consequences when a significant proportion of those loans go wrong. And the latter is exactly what FR achieves because when a significant number of loans go wrong, lending entities do not become insolvent: all that happens is that shares in lending entities decline in value. It is precisely risky loans that sometimes turn out to be the most profitable and productive.

Moreover, under FR, those who fund loans are free to have their money loaned on in whatever way they want: if they really want to fund NINJA mortgages, they are free to do so.

2.39. *Private banks do not earn seignorage profits.*

Answer. The word seignorage is not defined in exactly the same way in every dictionary. The word is used here to refer to profit made by an entity that prints or issues money: the simplest and crudest example being a backstreet counterfeiter who prints inherently worthless bits of paper, and uses them to buy goods of real value.

Governments, assisted by their central banks do much the same. That is, they simply print money and spend it. Governments get something of real value (e.g. a road, school or war ship) and simply pay with bits of paper, or to be more realistic, with book-keeping entries.

Certainly where recipients of that money are prepared to hold the money without demanding interest (as is the case with £10 notes, \$100 bills, etc), government enjoys seignorage. As to where government has to pay interest to recipients of that money, then essentially government funds its spending by borrowing, and there is no real seignorage there.

Of course few people are bothered by the seignorage enjoyed by governments because government property is property that everyone benefits from.

In the case of PBs, it is much less clear whether and if so how they enjoy seignorage. However, Huber & Robertson (2000) explain pretty clearly how they do it in this simple illustration:

“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. This additional special profit is hidden from bank customers and the public, partly because most people do not know how the system works, and partly because bank balance sheets do not show that some of their loan funding comes from money the banks have created for the purpose and some from already existing money which they have had to borrow at interest.”

Of course PBs do not lend to one lot of borrowers at the free market rate and to another lot at the artificially low rate that comes from lending out freshly printed money, as is rather suggested in Huber & Robertson’s simple illustration. Rather, PBs use the freedom to print money to lend at a lower rate than would otherwise obtain, and that expands the total amount of business that PBs do. The profit derived from that extra lending is certainly seignorage of a sort.

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Fontana & Sawyer (2016, p.3) claim that PBs do not enjoy seignorage. Fontana & Sawyer do not produce any arguments worth talking of to back that claim, but they do cite the first half of a chapter from Graziani (2003, p.58-66). So let us run through that passage of Graziani's.

The first problem with Graziani's argument is that he *defines* money, or at least his ideal form of money as something that does not involve seignorage!

Well I can prove that boats don't float using my own special definition of the word boat which is something like "anything that sinks"!

The relevant words of Graziani's are (his p.60), "A real money should satisfy three main characteristics ... iii) the use of money must be so regulated as to give no privilege of seignorage to any agent."

Graziani's basic argument is that the simple / basic / obvious activity of banks involves no seignorage, which is correct. That basic activity is that a bank creates and lends money to person X as needed so that X can pay Y for goods or services supplied. Y then deposits the money at Y's bank, which in turn demands payment (in the form of base money) from X's bank. Clearly there is no seignorage profit there for either bank.

However (and to repeat), the freedom that PBs have to print a proportion of the money that they lend out is a clear boost or subsidy for the PB industry. I.e. that amounts to seignorage.

2.40. Full reserve nullifies automatic stabilisers.

Fontana & Sawyer (2016) claim, "Finally, FRB will nullify the automatic stabilisers...".

Answer. Fontana & Sawyer are right to say that under the existing system, when unemployment rises, government does not need to plead for funds to pay for the increased unemployment benefit burden: government just borrows more.

However, it really doesn't take a genius to set up a rule under which government under a FR *automatically* gets funds from the central bank to pay for a rise in the unemployment benefit bill (or at least a proportion of it). But there's another problem with Fontana & Sawyer's above alleged problem with automatic stabilisers, as follows.

As explained above, even under the existing system, assuming an independent central bank, the central bank has the final say on the amount of stimulus. Now suppose there's a rise in the unemployment benefit bill: that probably means demand is too low which means the central bank will not raise interest rates, and indeed may cut them.

On the other hand, it's always possible that despite a rise in unemployment, the central bank still thinks demand is too high (i.e. inflation is too high). In that case the central bank is likely to *counteract* a rise in demand stemming from the automatic stabilisers kicking in. So even under the *existing system*, central banks can scupper the automatic stabilisers. And a central bank may in fact be right to do that: for example a rise in unemployment in one month is not a brilliant reason for thinking a recession is on the way. In fact Sumner (2013) takes that point further and claims that all forms of fiscal stimulus (including automatic stabilisers) are near pointless because central banks are dominant.

So.... the automatic stabilisers only work under the *existing system* gratis the central bank! And that set up really isn't much different to what would obtain under FR where (as Fontana& Sawyer suggest) FR scuppers the automatic stabilisers. But if you don't like that, i.e. if you're an "automatic stabiliser" enthusiast, then it's not difficult (to repeat) to incorporate an automatic stabiliser element in FR.

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