

IN DEFENCE OF FRACTIONAL MONETARY RESERVES

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The debate about reserves - 100-percent vs. fractional reserves - in monetary systems is more or less considered as definitely closed in mainstream economics : It is generally accepted in monetary theory that a monetary system is necessarily a fractional-reserve system . However, Austrian economists have not abandoned the debate and they are right, because it can be considered as the most important one within monetary economics . Interestingly enough, Austrian economists do not agree at all about this problem . However it would be simplistic just to oppose those who favor a 100-percent reserve system and those who favor a fractional-reserve system, since the reasons for their respective support have to be made clear . Broadly speaking one may distinguish three streams of thought¹ :

1- The supporters of a 100-percent reserve system² mainly use two categories of arguments : The moral and juridical argument consists in stressing that fractional-reserves systems create incompatible property rights and are, therefore, a fraud . The utilitarian argument stresses that fractional-reserve systems are a cause of inflation and monetary instability .

2- Some of the supporters of a fractional-reserve system argue that it makes possible an elastic supply of money which make easier to meet the needs of a growing demand for money and avoids costly deflations and/or depressions³ .

3- As we stress below, the first ones are right when arguing against the second ones and, not so paradoxically, we basically feel much closer to the first ones than to the second ones . But so long, it does not imply that there is no justification for fractional reserves . Thus, those who support a third line of reasoning, although they do not agree with those in the second category, favor fractional reserves for completely different reasons . As such, they do not accept all the arguments of the first ones, although they accept the criticism they address to the second ones . The aim of the present paper is to clarify the precise analysis of this third category by discussing the two main arguments of the first category, the moral and juridical argument and the utilitarian argument .

I- Is there a moral and juridical argument in favor of 100-percent reserves ?

1- The nature of fiat money

Jörg Guido Hülsmann⁴ claims that, in case a bank gives a credit to B which has a longer duration than the credit made by A (depositor) to the bank, there are

¹ In the present provisional paper, we mainly quote a limited number of papers (specially by Jörg Guido Hülsmann and Jesus Huerta de Soto), because they give clear and synthetic views of most of the relevant problems . But some more arguments and articles will be discussed in the final version of the paper

² Among which are Murray Rothbard, Hans-Hermann Hoppe, Jörg Guido Hülsmann, Jesus Huerta de Soto, Walter Block, etc..

³ Among which [George Selgin](#) and [Lawrence White](#) .

contradictory claims of A and B on the same money (commodity-money) . However, we may imagine different sorts of claims . Let us then assume that A deposits one ounce of gold in the bank and gets a claim (a note or a deposit) on the bank, redeemable at any time against one ounce of gold .

One may first interpret this deposit in the following way : The depositor has a claim precisely on the physical unit of gold it has put in the bank and on which he may have printed a specific brand . In that case, it means he remains the owner of this piece of gold and the bank is only a warehouse . It would be a breach of contract if ever the bank was selling (or, even, lending) it to B : There would be no difference between this case and the case in which a warehouse would sell a piece of furniture deposited in its buildings⁵ . We may imagine that such warehouse contracts may have existed at the very beginning of the development of monetary intermediaries (issuing notes and/or deposits) . But they have disappeared for long, which may mean that they were not desirable for banks and/or their customers .

Second, the note or the deposit is a claim against a given quantity of gold (and not a specific unit) . According to Jörg Guido Hülsmann, in deposit banking, contrary to what happens in fractional-reserve banking, the owner of gold “deposited” in the bank remains the owner of this gold and the bank only stores the money of its customer (Hülsmann (2000),p.102).

Now, let us take the case analyzed by Jörg Guido Hülsmann, i.e. the case in which the duration of the claim held by the bank on B is longer than that of the claim held by A on the bank (The case of a sight account being the most obvious case) . According to Jörg Guido Hülsmann there are incompatible property rights, since at one given time, the same quantity of gold is held by two different owners . In fact, the existence of such an incompatibility depends on the precise nature of contracts . Jörg Guido Hülsmann is right if A holds a property title on a given quantity of gold . More precisely, in the case of fractional reserves, all depositors are (temporarily) deprived of their property : Each of them holds a property right on a fraction of the gold stock deposited in the bank (which still plays mainly the role of a warehouse) and this stock is sold or lent to other people .

The interpretation of deposit banking made by Jörg Guido Hülsmann is plausible, but it is not the only one . As we have seen, it is the more plausible whenever the customer deposits a specific unit of money (a coin or an ingot with a specific brand or a specific form). As emphasized by Jörg Guido Hülsmann, in

⁴ Hülsmann (2000), “Banks Cannot Create Money”, *The Independent Review*, V-1, Summer 2000, pp. 101-110.

⁵ As wrote Murray Rothbard, “In my view, issuing promises to pay on demand in excess of the amount of goods on hand is simply fraud, and should be so considered by the legal system. For this means that a bank issues “fake” warehouse receipts - warehouse receipts, for example, for ounces of gold that do not actually exist in the vaults. This is legalized counterfeiting” (Rothbard (1962), 2nd ed. (1991, p. 44)

such a case the juridical nature of the bank note is that of a warehouse title⁶ . Now when money is composed of pieces of gold which are perfect substitutes one to the other, there is no reason not to admit a different interpretation (under a fractional reserve banking system as well as under a 100-percent reserve system) : When A “deposits” one unit of gold in the bank, he is no more the owner of one unit of gold, but the owner of a piece of paper (a note) which, according to the bank promise, is redeemable at any time against one unit of gold . In other words, the bank becomes the legitimate owner of gold : There has been an exchange of one unit of gold against one unit of notes . Being the legitimate owner of gold “deposited” in its vaults, the bank can legitimately sell it or lend it . The problem is no more a problem of incompatible property rights, but a problem of risk, as in any contract : The owner of the note knows that it is redeemable against a given quantity of gold, but - as any contractor - he knows that the other contractor may not be able to fulfill his promise . There is in fact no difference between *selling* gold against a note and selling shoes against a three-month claim : You may never be paid for what you have sold . If I produce shoes which I sell to a wholesaler against a three-month claim and the wholesaler sells all the shoes to other people, there are not incompatible property rights on the shoes . I no more own the shoes, I own a claim (which, possibly, gives me a property right on future shoes) .

This difference of interpretation - between a warehouse title on the one hand, and an exchange of assets on the other hand - has no real consequence in the case of 100-percent reserve systems . But it leads to completely different consequences - and therefore to a completely different evaluation - in the case of a fractional reserve banking system .

If one does accept the latter interpretation (money substitutes bought from a bank against gold), the banking problem, in a fractional reserve banking system, is not one of incompatible property rights, but one of risk management. From this point of view, the term “deposit” may be somewhat confusing . When holding a deposit, do I own a given quantity of gold (kept on my behalf in the vaults of the bank) or do I own a claim with a specific definition (various provisions about redeemability) ? In other words, we have to make clear which are precisely the terms of the contract between the depositor and the bank . It is difficult to give a generally accepted answer because most often these provisions are implicit and not explicitly stated . But we cannot arbitrarily decide that only one type of contract, one definition of money substitutes, can exist and that it necessarily implies that the depositor remains the only legitimate and full owner of the gold “deposited” in the bank . If contracts are implicit, we can interpret them as we like . And I have the right to believe that some of these contracts, at least, decide that the depositor abandons the ownership of gold which is bought by the bank . The bank has to decide how it will honor its gold guarantee for the claims bought by its customers and to which extent it accepts to bear the risk of being illiquid . Moreover, whenever it is explicitly decided in the contract that the owner of the

⁶ « The proper economic interpretation of a deposit is that of a warehouse receipt» (Cochran-Call-Glahe (1999), p. 55)

claim can obtain a compensation if the claim is not perfectly redeemable against gold (option clause), it is quite clear that there is no conflict of ownership .

One reason for diverging views in the debate may arise from diverging interpretations of the very nature of credit . Hülsmann (2000) (p.102) analyzes a credit as an operation in which “By lending (his money) to the bank, (individual) A gives up the right to use the money, for the time stipulated in the contract, and grants this right to the bank. The bank then lends this money to (individual) B...”. But what does it mean the “right to use the money” ? This statement is misleading, but is used by Jörg Guido Hülsmann because it implicitly supports his subsequent approach .

Let us make a comparison : Whenever the owner of a flat rents it to a tenant, he remains the owner (and he is the only one who can sell the flat), the tenant getting only a user right (He gets the “right to use the flat for the time stipulated in the contract”). But what is going on in a credit contract is quite different . The lender is not selling only a part of his property (“usus”) and keeping the other one (“fructus” and “abusus”) . He is abandoning the *full property* of his resources to the borrower . In fact he does not just “give up the right to use”, he is entering into an exchange with the borrower : He sells the full property of present goods and he buys from the “borrower” the full property of future goods (under the promise to deliver these resources at a given future date). In the case of the rented flat, the owner can sell it to another owner, in spite of the fact he has given up the right to use it for a given period, whereas, in the case of a credit operation, he cannot sell the lent resources to any one else, since he is no more the legitimate owner of these resources . He can only sell what he owns, for instance future resources .

Now, as Jörg Guido Hülsmann considers that, in a credit operation, the legitimate owner of existing resources is the lender and not the borrower, he subsequently has the possibility to consider as incoherent a situation in which two different people - the lender and the borrower (or the one who is benefiting from a bank credit) - have property rights on the same goods. In a fractional-reserve banking system, according to him, “this action *immediately* brings about a situation in which contradictory claims to physical dollar bills exist” (p.103) and “on the juridical level, this situation is likely to end up in litigation. On the economic level, it implies *right now* a dis-equilibrium.”

But in fact the borrower and the lender do not own the same goods. The borrower owns present resources and the lender owns future resources (which are to be produced by the borrower). Now, when you buy future resources, you certainly bear a risk, since it may happen that these future resources - which, by definition, are not yet created - are not produced. From this point of view, there is no difference between the situation of the holder of notes redeemable against gold and the situation of a shop-keeper who has ordered 100 pairs of shoes to be delivered three months later . In both cases, it may happen that the promise to redeem or to deliver is not fulfilled .

Therefore, it is not debatable that money creation under a fractional reserve system is risky as far as the duration of the credits (made by the holder of notes and by the bank) are not identical . But, contrary to what is asserted by Jörg Guido Hülsmann, there are no contradictory ownership claims .

Whereas Jörg Guido Hülsmann considers that fractional reserve banking systems imply two incompatible claims on the same good, Jesus Huerta de Soto considers that the difficulty stems from the fact that in a fractional reserve system there is a “wish to merge two contracts, the deposit contract and the loan contract which, like water and oil, are essentially incompatible with each other” (de Soto (1998), p.40) . There are certainly differences between a deposit contract (or a warrant ?) and a loan contract (as is clearly shown in a table by de Soto on p. 41) . But there is no reason to admit that fractional reserve systems imply *adding* a loan contract to a deposit contract . It is not because part of fiat money is called “deposit” that it has been created through a “deposit contract” . There is only one contract, the loan contract, which can be analyzed as a pure exchange contract (exchange of present goods against future goods) . As Jörg Guido Hülsmann, Jesus Huerta de Soto considers that there is a serious juridical irregularity as “contracts, at most, can only be the materialization of a cross transfer of properties (*do ut des*) but cannot create property *ex nihilo*. In fact, a new amount of physical money (e.g. gold) has not been created but both actors (the depositor and the borrower) think and act as if they owned the same physical good” (pp. 41-42).

“The contract is null and void, from the point of view of general legal principles, since the *predominant purpose* of one of the parties, the depositor, is to make a deposit, while the other party, the depository banker, receives it as a loan” (de Soto (1998),p. 42) . But there is no proof that the purpose of the “depositor” is making a depository and it is just decided arbitrary by Jesus Huerta de Soto . It is not just because the holder of money substitutes is arbitrarily called a “depositor” - may be as a consequence of an abuse of language - that he can actually be considered as a depositor and that he may consider himself as a depositor . In fact, the term “depositor” may have been used in 100-percent reserve systems and it was kept later on, although the juridical nature of operations had changed when shifting from one system to the other . If Jesus Huerta de Soto is entitled to name a contract between a banker and his customer a deposit contract, why should I not be entitled to name it an exchange contract ?

Moreover, according to Jesus Huerta de Soto, whenever an option clause exists, it “goes against the nature of the concept of money, the essence of which is precisely the availability of perfect, i.e. immediate, complete and totally unconditional, liquidity at any moment” (de Soto (1998), p. 45).But one must distinguish the process by which fiat money is created (via a contract of exchange against gold) and its very nature as it is perceived by money holders : What holders desire is a generalized purchasing power, exchangeable against any other good at any time. If ever there is a temporary suspension of the gold convertibility, due to the working of the option clause, it does not mean that the money substitutes can no more be exchanged against other goods. The general acceptability of money is

what makes it liquid, although creating it against gold has been historically the best way to make it acceptable.

As a consequence of the supposed incompatibility of property rights on gold, Jörg Guido Hülsmann concludes that fractional-reserve banks “are virtually bankrupt, because at any point of time they have more cash liabilities than they have cash in their vaults” (Hülsmann (2000), p. 105). This is true, but it is also true of any firm which borrows money or hires workers and is not certain to sell the outcome . Those who accept to hold claims on the firm (as wage-earners, lenders, or suppliers) do know that their claims are risky (in other words that there can be incompatible property rights) . This is not a sufficient reason to say that the firm is doing illegitimate activities since it gives property rights which are not guaranteed . As all firms are virtually bankrupt, since they promise future payments by contract without being certain to have the corresponding money at the time of the payment, there would be no reason not to extend the position held by Jörg Guido Hülsmann (and others) - which implies that banks are “virtually bankrupt” just because they are doing risky operations - to any firm in any field of activity . In fact, some firms do fail. But there is no reason to believe that the risk of failures is greater in fractional-reserve banks than in any other firm . In fact, whatever is his activity, any entrepreneur acts in order for his firm to survive and to maximize his profits. If ever one is confident in the capacity of firm owners to take responsible decisions, why should we not accept it in the field of banking ? A fractional-reserve banker has a specific knowledge of the behaviour of his customers and he chooses a reserve ratio which is optimal to him in order to maximize his returns and to make possible the survival of his firm .

2-The preference for fractional-reserve systems

It is quite clear that a 100-percent reserve system can be considered as desirable in any respect, except insofar as it implies difficulties for banks to cover the costs of producing money substitutes, as we stressed in another paper⁷ . We will not develop this line of argument here, but it has to be reminded that, under competitive conditions, one may imagine that both systems (100-percent reserve and fractional reserves) would exist . The market might then select one of both systems and it is likely that a fractional reserve system would be chosen (As it may have been the case historically) .

Contrary to what is said by Jörg Guido Hülsmann, it is not true that fractional reserve banking “enriches some at the expense of others”. The contract by which money-holders buy money substitutes from banks is not different from any other contract : It enriches both partners. The money-holder gets monetary units which better fit his specific needs, the banker gets a return for his activity which consists of producing monetary units .

⁷ “Free Banking and Fractional Reserves : A Comment”, *The Quarterly Journal of Austrian Economics*, I, N° 3, Fall 1998, pp. 61-66 .

We can certainly agree with Jörg Guido Hülsmann when he writes (p.108) that banks ought to write special provisions on notes when there is not a full 100-percent guarantee . However, it is not true that such notes would not be money, but financial assets : According to Jörg Guido Hülsmann they would not be cash balances, because “the reason why people own money is that they want to be sure the money is there when they want to sell it”. Now, usually, people want to sell money substitutes against commodities or assets and not against gold (money) . Therefore, whenever they hold notes convertible into gold (with some degree of risk), what they consider is the purchasing power of these notes (not in gold, but in present and future goods) . What is important for them is not the gold convertibility, but the “commodity convertibility” (which is better guaranteed whenever there is a gold guarantee). In other words, Mises has shown, through the regression theorem, that money had to have a real definition (for instance in gold) in order to be acceptable as money. But once money has become a generally accepted means of payments, it is desired as such. At the extreme, one could imagine that banks decide to suppress the gold guarantee, but decide never to create any additional unit of money . At any time, the real value of money would be estimated from its purchasing power in the previous period and - as is demonstrated in the regression theorem - demands and supplies could thus determine money prices . In turn, the value of money would be determined by changes in the relative scarcity of (the constant stock of) money in comparison with other goods : In a growing economy with a stable nominal quantity of money, money prices would be decreasing and the purchasing power of money would be steadily increasing . Money would play as good a role as it would under a pure gold standard (circulation of gold coins and ingots) : People would have the necessary information about the value of money, no economic cycle could be possible since there would be no exogenous monetary shock . Such a system - which would go beyond the fractional reserve banking system, since the reserve ratio would be equal to zero - would work perfectly ;

II-Is there an utilitarian argument in favor of 100-percent reserves ?

Supporters of 100-percent reserves do not content themselves with the moral and juridical arguments we have just discussed, but they also use utilitarian arguments : They usually argue that a fractional reserve system induces inflation and economic instability . If acceptable, these utilitarian arguments would play an important role in supporting 100-percent reserve systems, since the moral and juridical arguments did not give them any definite superiority.

1-Money creation

It is obvious that there is no need for any money creation in any society so that the role of banks as producers of cash balances is useless and even harmful, whenever it exists . In fact, the most efficient way to meet the needs of money holders - who desire real cash balances and not nominal balances and who benefit from any increase in the real value of their cash balances - does not consist in creating nominal cash balances - the only thing banks can do - but, on

the contrary, in not creating nominal balances, so that the real cash balance effect can play its role in the right direction : When the rate of growth of money is lower than the rate of growth of other goods, the real value of existing nominal balances is increasing . This means that real balances are not and cannot be created by banks⁸ , but they are necessarily and indirectly produced by money-holders via their demands for real balances .

From this point of view, we certainly do not support fractional-reserve systems for the same reasons as what Jesus Huerta de Soto calls the theorists of the “Fractional-Reserve Free -Banking School” (mainly George Selgin and Lawrence White). According to them, if there is an increase in the demand for fiduciary media, a fractional-reserve banking system can meet this demand better than any other system⁹ . Now, such an assumption is perfectly arbitrary. Assuming, as we do, that people prefer money substitutes produced in a fractional-reserve banking system to money substitutes produced in a 100-percent reserve system, this does not imply that they “need” additional units of fiduciary media . Jesus Huerta de Soto is perfectly correct in the following quotations which constitute the best refutations of the idea according to which there is a need for creating additional units of nominal money :

“The theorists of the Fractional-Reserve Free-Banking School usually begin their monetary equilibrium analysis by assuming that there have been sudden variations in the demand for fiduciary media, the origin and etiology of which they rarely explain”...“Like the Keynesians and the monetarists, (they) seem obsessed by short-term unilateral changes in the demand for money. However, such changes historically have been produced over an economic cycle - during the last stages of booms and in crises - which almost always begins as the result of *previous* changes in the supply of new money created by the banking system” (de Soto (1998), p.27)...“The modern free-banking theory shares the essential error of the old Banking school which stems, as Mises showed, from not having realized that the credit demand from the public is a magnitude which depends precisely on the banks’ willingness to lend” (p.29)...“If the origin of the changes in the demand for money is in free banking supply of fiduciary media, the essential foundation of the theory of monetary equilibrium under fractional-reserve free banking, according to which the supply of fiduciary media simply adjusts itself to the demand for them, disappears.”

After having correctly stressed that the Selgin-White assumption of an exogenous increase in the demand for fiduciary media has no possible explanation, Jesus

⁸ When Jörg Guido Hülsmann writes that “banks cannot create money” - the title of his article (Hülsmann (2000) - it means that they cannot create real balances; but they can create nominal balances and they do . More precisely, by creating money (at a rate higher than that of real resources) they are destroying nominal balances . By destroying nominal balances, they are creating real balances.

⁹ According to Jesus Huerta de Soto, “for Selgin and White, the main virtue of the free-banking system is that it adapts the issue of deposits and bank notes to the increases and decreases in the demand for them” (de Soto (1998), p.27).

Huerta de Soto, nevertheless, analyzes the microeconomic consequences of such an event. His analysis is correct, but it may not be much relevant as far as he himself dismisses the likely occurrence of such events. Now, the remaining problem consists in evaluating to which extent, in a fractional-reserve banking system, an exogenous increase in nominal balances may arise not from demand, but from supply. The supporters of a 100-percent reserve system assume that there is a lot of flexibility in the production of fiat money so that it can be (or it is necessarily) both inflationary and unstable. Let us consider both these statements.

2-Inflation in FR systems

Thus, even if we fully agree with supporters of a 100-percent reserve system according to whom there is no justification for creating nominal cash balances, the important point is now to evaluate to which extent there is an additional creation of nominal cash balances in a fractional-reserve banking system. In other words, although it is true that banks can expand the quantity of gold substitutes - by reducing the value of the reserve ratio - the problem consists in evaluating to which extent they actually do it. From this point of view, it is important to make a clear distinction between the transition period - shifting from a 100-percent reserve system to a fractional-reserve system - and the long-run working of a fractional-reserve banking system.

Let us therefore assume we are initially in a 100-percent reserve system. Investment is financed by equity capital and loanable funds. In an homothetically growing economy, both forms of savings grow at the same rate. In particular the balance-sheet of financial intermediaries grow at this same rate. Now, if people shift to a fractional reserve system at some point of time, credits (loanable funds) are expanding at a higher rate than the "normal" rate of growth, as long as the reserve ratio is decreasing. The consequences are the usual ones described by Austrians: Over-investment, fluctuations in the rate of interest, etc.. But, at some point of time, each producer of money substitutes will reach its desired value of the reserve ratio: Reducing the reserve ratio further would bring a higher return, but would impair the confidence of its customers, at least if there is competition. Therefore, one may assume that there is an average long-run equilibrium value of the reserve ratio in a fractional-reserve banking system. When the transition period is finished, i.e. when the reserve ratio has reached its long run value, all growth rates equalize again. The quantity of money substitutes is a multiple of the stock of monetary gold, but both grow exactly at the same rate, so that a fractional-reserve banking system is no more inflationary than a 100-percent reserve system.

Under a pure gold standard (without notes nor deposits), individuals share their resources between savings, the accumulation of money (gold) and consumption. If one shifts from this pure gold standard to a 100-percent reserve system, the sharing of resources remains exactly the same. But it is also exactly the same under a fractional reserve system, once the transition period is over. Under a pure gold standard or a 100-percent reserve system, money-users ultimately

purchase the additional money (gold or gold certificates) from the gold producers. Shifting from such a system to a fractional reserve system is exactly equivalent to a (temporary) increase in productivity (or the discovery of new gold mines) in a pure gold system or a 100-percent reserve system .

In fact, let us assume that, being in these latter systems (pure gold system or 100-percent reserve system), new gold mines are discovered at each period, so that the quantity of gold is doubling at each period . By selling the new gold, the gold producers determine a doubling of the gold price of commodities at each period (assuming that there is no real growth). Money-users have to adjust to this situation by attributing part of their resources to the purchase of new gold (since gold prices increase) . There is no difference between this situation and the shift from a pure gold system (or 100-percent reserve system) to a fractional reserve system : The production of new bank notes can be analyzed as an addition to the stock of money exactly similar to the one which resulted from the increase in productivity in the gold production sector. In this case, part of the resources that money-users may transfer to buy the new money is paid not to gold producers, but to the producers of money substitutes . From this point of view, there is no difference between the activity of a gold producer selling the gold of a new mine and that of a money-producer selling gold-backed notes in a fractional reserve system . There are no less, no more price distortions in one or the other system . It is certain that the behaviors of producers and consumers are not the same in a world of “price stability”, of prices increasing at a rate of 5 % or decreasing at a rate of 5 % . But the long run rate of inflation (deflation) is the same under any of these monetary systems (pure gold standard, 100-percent reserves or fractional reserves), it is determined by the growth rate of gold in comparison with the growth rate of commodities.

Thus, we have to make a clear distinction between the transition period and the long run period . It is quite true that there is inflation in the transition period, when a monetary system transforms itself from a 100-reserve system to a fractional-reserve banking system. From a given quantity of monetary gold, a multiple quantity of money substitutes is created . By reducing their reserve ratio from one to some lower value, banks get a *profit* and create inflation . This profit can be considered as the consequence of a redistribution from money-holders to money-issuers . However, it can also be interpreted as the normal profit got by banks which have innovated by inventing a system - the fractional-reserve banking system - which is more desirable both for them and for their customers, according to what we have previously said .

Let us assume that the growth rate of the gold stock and the real amount of transactions grow at the same rate (A sort of evenly expanding economy). In a 100-percent reserve system, there would be “price stability” for what it means and, let us assume, no changes in relative prices. It is exactly the same with fractional reserves . But, for any ounce of gold added to the gold stock, a multiple amount of fiat money is created by banks (against credits), which thus receive a return under the form of an interest payment . To get new balances, the money-users have to pay (under the form of foregone resources), but their payment

corresponds to the benefit they obtain from using the services of a fiat currency (instead of gold) .

Now, in comparing the working of a 100-percent reserve system and a fractional reserve system in a situation of steady growth, can we say that there are secondary effects, under the fractional system, as far as more credit is extended to investors through this process of money creation ? It is certainly true that, in such a system, banks “re-channel income so that a different type of growth obtains”, as stressed by Jörg Guido Hülsmann (2000), but, contrary to what he seems to believe, this “redistribution effect” has not to be regretted : As we already stressed, the producers and holders of money desire this precise form of exchange and, as any desired form of exchange, it increases the welfare of all . Therefore, it cannot be said that a fractional-reserve system “creates winners and losers” (Jörg Guido Hülsmann (2000), p.107). The distribution of resources is not the same in a 100-percent reserve system and in a fractional -reserve system, but all gains from shifting from one system to the other .

The supporters of a 100-percent reserve system claim that a fractional-reserve system is necessarily inflationary. But this would logically imply that the average reserve ratio of banks is steadily decreasing, which cannot be true, as there is necessarily a minimum value of the reserve ratio beyond which banks do not want to go, at least in a competitive system . Truly, Jesus Huerta de Soto, for instance, admits that such a process of continuous creation of excess credits and money cannot last for ever . But, according to him, “The truth is that errors will tend to be discovered and eliminated, but only over a prolonged process, which may last a longer or shorter time, during which certain volumes of fiduciary media will be produced by error and will cause *real* damage to the productive structure” (Soto (1998), p.30) . However, although it is true that certainty does not exist and errors (in comparison to what ?) always exist, there is no logical reason to believe that errors may last for a prolonged period of time . Let us imagine, for instance, that money producers passively obey a rule according to which they maintain a stable reserve ratio : There is no over-expansion of money¹⁰ . And there is no reason not to assume that, under a free-banking system, banks would not announce such a rule in order to create confidence among customers .

Jesus Huerta de Soto also assumes that there may be an “in-concert’ expansion of fiduciary media, arranged simultaneously by a larger or more reduced group of bankers” . He considers a priori that a cartel is created in order to obtain a monopoly situation and to obtain a “super-profit” (by increasing the stock of fiduciary media and getting a higher seigniorage or inflation tax) . But, on the contrary, the monetary cartel may be a way to improve the working of a fractional-reserve banking system by introducing procedures for mutual surveillance.

¹⁰ Which does not mean that there is an “optimal” production of money.

Thus, it is without any real demonstration that Jesus Huerta de Soto - as well as other supporters of a 100-percent reserve system - states that “even in a fractional-reserve free-banking system, significant inflationary processes and serious economic crises may take place” (p.31).

3-Fractional-reserve systems and business cycles

Having dismissed the possibility of a systematic inflationary bias in fractional-reserve banking systems, we have now to evaluate to which extent fractional-reserve banking is creating monetary fluctuations by modifying in the short run the value of the average reserve ratio, while maintaining a stable value of this ratio in the long-run, as we have previously assumed . Now, there is no a priori reason to suppose that some monetary instability is caused by some variability of the reserve ratio . To demonstrate that such a situation necessarily occurs, it would be necessary to explain why all banks would have some interest in decreasing their reserve ratio exactly at the same time, then to increase it in order to come back to the ratio they desire in the long run (optimal ratio). To get such a result, therefore, one ought to introduce some specific behavioral assumptions for banks, which seem a purely ad hoc assumption and which, by the way, have never been produced . Thus, although defenders of 100-reserve systems assume that fractional reserves necessarily induce monetary instability, they have never explained it .

According to Jörg Guido Hülsmann, the root of instability comes from the fact “There are more titles than there is money” . This is mathematically true, but it does not imply that this is “the root of the dis-equilibrium that is implied in fractional-reserve banking” . In fact, one may interpret this state of affairs differently : Each holder of a note does know that the note he holds can be potentially exchanged against a given quantity of gold . And this knowledge is useful to him as far as it makes possible to know all relative prices and to get an evaluation of the purchasing power of his note in terms of the commodities he may wish to acquire . Let us make a parallel : In a pure gold standard - i.e. a system where only gold is used as money and there are no money substitutes - gold is held as far as it can be potentially exchanged against other commodities . By holding gold, people know they keep in stock a certain amount of purchasing power . The usefulness of money does not come from the fact it consists physically in gold, but, on the contrary, from the fact people can get rid of this gold and acquire other goods . Similarly, in a gold standard with money substitutes (notes or deposits convertible in gold), money-holders are more interested by the fact the money substitutes are *potentially* convertible into gold than by the fact they are *actually* converted into gold : In fact, the gold convertibility is an indirect means to determine the real value of the purchasing power of their notes and deposits into commodities . Therefore, they are concerned by the possibility to convert their money substitutes into commodities more than by the convertibility in gold by itself . But the gold guarantee improves the quality of their currency from this point of view .

This means that the holders of money substitutes may perfectly know that there is a risk in holding them since, in a fractional reserve system, not all money substitutes can be actually converted into gold . But there is no reason to assume that individuals believe reality to be different from what it is, contrary to the view expressed by Jörg Guido Hülsmann (2000, p. 107), according to which “advocates of fractional-reserve banking implicitly do endorse the view that reality is what people believe reality to be” . We have no reason to assume that people are ignorant of what they really hold . They may have a perfect understanding of the working of a fractional-reserve banking system and they interpret the holding of money substitutes not as titles on gold, but as conditional titles, i.e titles which can be exchanged against a given quantity of gold, but with some degree of uncertainty. And if, having this perfect knowledge of the real situation, they decide to hold these titles instead of gold itself or titles issued by a competitive bank with a 100-percent reserve ratio, it is just because they prefer these titles .

This means that fractional reserve banking does not necessarily imply monetary instability. For monetary instability to prevail, some illusion has to be created : It is the case whenever banks are doing an over-expansion, which means a temporary decrease in their reserve ratio . Now there is no reason for all banks in a competitive system to decide such a change at the same time, whereas monetary authorities in a public system may decide to engage in such an expansion . This means that it is not the fractional-reserve banking system per se which is a source of instability, but its use by a public authority. Therefore, there is no logical link between a fractional-reserve banking system and the economic cycle . From this point of view the link proposed by Jörg Guido Hülsmann is more than debatable : According to him, “fractional-reserve banking brings about a difference between what exists and what people think exists. It makes them think that they are better off than they really are - this is the boom phase of the business cycle”(Hülsmann (2000), p.108) . If ever banks are extending credit of monetary origin at a higher rate than the rate of growth of the economy - i.e. there is a decreasing reserve ratio- they make people think that available savings are higher than they really are and - as is well known - this is in fact a cause of monetary and economic instability . But the necessity to maintain a stable reserve ratio when money-holders do know that they only have a conditional title in no way can be considered as a situation of illusion and it avoids instability.

We certainly all agree, as is expressed by George Selgin, that “a 100-percent reserve banking crisis is an impossibility” (Selgin (1993),p.2). But it does not mean that this system is the best one . As Jesus Huerta de Soto correctly writes ,”I do not think that the elimination of bank crises is the definitive historical criterion for evaluating which banking system is the best”((de Soto (1998), p.39) . In fact, and as we have stressed, this system may not be considered as the most efficient by money-users and money-producers to solve the problem of paying for bank services, for instance . As in any other activity, the only criterion - as Austrians ought to know - is the revealed preferences of those who are concerned : If there is a free choice between 100-percent reserve systems and fractional-

reserve system, and if people choose the second category, the corresponding systems have to be considered as optimal, whatever are the consequences of these choices . It means that, under such conditions, a fractional-reserve system ought to be considered as optimal even if it was to produce monetary instability, which by the way it does not logically do.

By the way, monetary instability also exists under a 100-reserve system, as there are fluctuations in the production of gold and in the production of commodities . If the reserve ratios are not perfectly stable in a fractional-reserve system, there are no more reasons to assume that these fluctuations in the reserve ratios are exaggerating fluctuations coming from the gold sector and the commodity sector, than to assume they are compensating .

As we have seen previously, no ethical, juridical or economical argument is acceptable against fractional-reserve banking. Now, it may certainly happen that a fractional-reserve bank fails - as would a 100-percent reserve bank which would be unable to cover its costs . And the possibility of a failure, for one firm or for one activity sector, does not imply that this firm or this sector ought not to exist (and, even less, that they ought to be prohibited). But an usual argument - recuperated by Jörg Guido Hülsmann - consists in stressing that there would be specific consequences of failures in the banking sector which, by some miracle, would not exist in any other activity : This consequence is named the “domino effect”, i.e. the fact that the failure of a bank might lead to the failure of other ones and, therefore, of the whole payment system of a country or even the world . But one has never explained why this domino effect would exist mainly in (fractional-reserve) banking . In fact, it exists, no less, no more, in any other activity¹¹ : Whenever a firm turns bankrupt, it means a (more or less unforecast) loss for those who held claims on this firm and, in turn, it implies some more risk of bankrupt for them . This risk is higher the higher is the proportion of these claims in the balance-sheet of the creditor .

Let us first consider a monetary system in which each fractional-reserve bank is totally independent of other ones and sells its own notes with a gold guarantee. In the absence of any formal agreement of all banks to accept for payment, in exchange for their own notes, the notes issued by other banks, notes are held only by the customers of banks and not by the banks themselves . The failure of one of them is costly for their creditors - their customers - not for other banks, so that there cannot be any specific “domino effect” .

Now, in a free banking system - with fractional-reserves as well as 100%-reserves - it is very likely that note-issuing banks enter into some sort of cartel agreement in order to increase the liquidity of their own notes : Each bank accepts to buy notes issued by the other members of the cartel against its own ones under the condition that other ones do the same . In such a case - which is the usual one -

¹¹ As an example, in many less developed countries the inability of the state to pay its debt on the date they have to be paid, is destroying the whole system of payments : Creditors of the state become unable to reimburse their own debts, some fails, others decide to charge a higher price in order to cover a risk premium.

there is potentially a risk that all the banks belonging to a monetary cartel suffer from the bankruptcy of one of them, as far as they hold notes issued by it . However, at any point of time, the holdings of notes are nothing but very limited, since the existence of such a cartel cannot be imagined without the existence of a clearing house through which each bank gets rid daily - or, at least, weekly - of the notes issued by other ones . Therefore the probability of a “domino effect” is very slight, if not completely inexistante .

Apart from this, it can be assumed that the failure of one member-bank of the cartel creates a panic, namely a run on all banks . This is assuming that there is necessarily a sort of psychological effect according to which people consider that the failure of one bank is a sign of a bad management for all of them . In other words, it implies that money holders have a very limited information on the precise management of all banks and they just do the assumption that all of them are managed exactly in the same way . Now, once more, if ever such a behavioral assumption is made about banks, why not to do it for any other activity in which producers are organized into a cartel : The failure of an airline participating into the IATA cartel ought to create the feeling that all airlines will fail . In fact, such a simplistic assumption about the behavior of customers just implies that people are unable to learn from experience : The customers of fractional-reserve banks, it is assumed, always consider that the failure of one bank leads to the failure of all; the owners of banks, it is also assumed, are unable to invent new ways of creating confidence, disclosing relevant information or inventing techniques to expel from the banking cartel the bank which is too adventurous . As we already stressed, one advantage of a cartel organization, on the contrary, stems from the fact it may organize procedures of mutual surveillance, thus not only making the domino effect impossible, but also regulating the money creation policy of each member bank .

Jesus Huerta de Soto, as some other Austrian economists, considers that a fractional-reserve system necessarily implies a “breach of public order” since it necessarily causes an Austrian-type business cycle (de Soto (1998), p.43). But no demonstration is produced to explain such a supposed causal relation. On the contrary, it can be demonstrated, as we have done, that there is no reason for such a cycle to occur, as long as there is no monopoly in the production of money substitutes. And Jesus Huerta de Soto is certainly wrong when he says that “actually, when mutually satisfactory agreements between two parties are made with damages to third parties and therefore constitute a breach of public order, the corresponding “contracts” are entirely null and void” (which ought to imply that a contract between a banker and its customer in a fractional-reserve banking system would be “null and void” because it is causing a business cycle...). I am afraid that such a tyrannic view of justice be held by an Austrian economist . In fact, this statement implies that, whenever a third party suffers from some negative externality, he has to be compensated for the damage . A correct theory of justice implies that someone has to be compensated when his own, precisely and previously defined rights are damaged by others . But no one can pretend to have some right to obtain a stable economic environment and to get compensation for any business cycle which is supposed to be caused by the mere

existence of fractional reserves or to forbid fractional reserves which are supposed to create these business cycles. Such a position is the more unacceptable that there is no unavoidable causal relation between the existence of a fractional reserve system and economic instability¹² .

We certainly all agree that over-expansion of money substitutes is creating damages for others, but one must not make a confusion between an actual damage and a potential damage . As in any other activity, a free-banking fractional-reserve system incorporates a regulatory mechanism (which does not exist under a monetary monopoly) .

4-Monopoly, the only villain in the story

It is certainly true that any addition to the stock of fiduciary media creates changes in relative prices, that these changes are destabilizing and that they are possible only in fractional reserve systems. But the potential risk they represent transforms itself into an actual risk only if these systems benefit from a monopoly situation . In such cases only, monetary policy becomes possible and those who control the production of money substitutes are in a position to impose ever-decreasing or frequently fluctuating reserve ratios

The supporters of a 100-percent reserve system can only recommend either the interdiction of fractional reserves (as illegitimate practices) or wish that Courts forbid them. In fact, what has to be forbidden as illegitimate, either by the law or by the Courts, is the mere existence of a monopoly which is necessarily of public origin .

The supporters of a 100-percent reserve system more or less acknowledge the importance of competition and monopoly situations. But they focus their attack against fractional-reserve systems instead of focusing them - as they ought - against monopoly situations . They are induced to introduce, once more, a purely hypothetical relation between fractional reserve banking and monetary monopolies . Thus, Jörg Guido Hülsmann writes that “fractional-reserve banking is not unrelated to central banking, fiat paper money and international monetary institutions like the IMF. Ultimately, these institutions are abortive attempts to solve the problems of fractional-reserve banking by centralising cash reserves or

¹² In footnote 36, de Soto holds the very dangerous view that “few criminal acts of negligent driving cause accidents or damages to third parties, but, all of them are offenses since they imply a breach of public order”. Contrary to the correct classical tradition according to which no one can be condemned for torts he has not actually done, this statement implies that someone can be punished just for being a potential source of danger (as is wrongly done for violators of speed limits). It reminds me of the story of this man who was convicted of intending to do a murder because he had a knife on him and who answered the President of the Court : “You may also consider that I wear on me the necessary means for doing a rape”. As the mere fact that someone exists can be considered as a potential source of dangers for others, any one ought to be punished for existing . Similarly it now clearly appears that the alleged condemnation of fractional-reserve banking, because it is a potential cause of economic instability, has to be dismissed .

by refusing redemption of money titles” . Similarly, Jesus Huerta de Soto is using an historical argument to support 100-percent reserve systems . According to him in all of the sixty cases of fractional reserves which have been studied, a central bank has been created at one time or the other so that it could be said that the existence of fractional reserves implies such a possibility to create fiat money that there is a constant temptation to use it, and to monopolize money production. In a system of fractional reserve banking, he writes, “a central bank will inevitably emerge as a lender of last resort and controller of the whole financial system” (de Soto (1998), p. 46). It may be so, but this is not a theoretical argument and it may only constitute an incentive to discover some juridical trick to avoid the nationalization of the monetary system, particularly under the form of creating a public lender of last resort .

It is certainly true that central banking (or the IMF) are not only useless, but also harmful. However, they exist just because public authorities did understand that nationalizing the money system was easy and that it made possible a huge spoliation of citizens (Whenever, we must admit, fractional reserve banking is possible) . But historically most central banks have not be created as an answer to some monetary crisis created by fractional reserve banking . Moreover and above all, if ever fractional reserve systems are not primary producers of monetary crises and instability - as we do believe - the supposed relation between the working of fractional reserve banking and the appearing of central banks is just fancy . To be sure, central banking always needs to be supported by some ad hoc theories, among which the theories according to which a fractional-reserve system is fundamentally unstable and/or the “domino theory” . Therefore, those who support these ideas - as is the case of the supporters of a 100-percent reserve system - may bring some intellectual support to the defenders of central banking as far as spontaneously created fractional-reserve systems do exist.

In a competitive system, as we already stressed, a steady decrease in the reserve ratio is not possible any more than suspending or suppressing gold convertibility. The historical evolution of monetary systems, which led to the final surrender of any gold convertibility in 1968 (with the creation of the two-tier gold market), has been the outcome not of fractional-reserve banking, but of the generalized acceptance of monetary systems which are public, national and hierarchical .

The problem is the monetary monopoly, not fractional reserves .

References
(to be completed)