The Hubris of Hybrids

Abstract: In the pages of this journal, a fruitful debate has evolved on the ethical legitimacy of fractional-reserve banking. In this article we respond to the new arguments raised by Evans (forthcoming) as we clarify our (Bagus, Howden and Gabriel 2015) position on the unethical and illegitimate nature of fractional-reserve banking. Fractional-reserve banking is not a recent financial innovation (unlike, e.g., money market mutual funds) but represents a long-standing legal aberration. The co-mingling of two mutually exclusive financial contracts, deposit and loan, confounds the contracting parties´ purposes, intents, rights and obligations. As a result it creates unsolvable legal difficulties and ethical dilemmas. While these problems are most evident in the case of a bank run, they also arise when trying to answer the simple question of "who owns a deposit?"

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Introduction

In the pages of this journal, a fruitful debate has evolved on the ethical legitimacy of fractional-reserve banking. The present article is a response to Evans (forthcoming) which in turn is a reply to Bagus, Howden and Gabriel (2015) [henceforth BHG]. The ongoing exchange between Evans and BHG has reduced the differences between the positions greatly. We applaud this tendency and have confidence that we may finally reach agreement on the ethicality of modern deposit banking.

In order to aid the uninitiated reader we will start with a brief reiteration of the original arguments. Bagus and Howden (2009, 2012) commenced the debate by arguing that deposit and loan contracts are fundamentally different.[1] The essential element of a deposit contract is the custody or safekeeping role of the deposited good.[2] There is no maturity term as the depositor may withdraw his funds at any time. As a result the depositary´s obligation is to maintain the *tantundem* available to the depositor (which implies a 100-percent reserve requirement in the case of banking as this is the only way to continuously guarantee delivery). The essential purpose of a loan contract is radically different, namely the transfer of the good´s availability to the borrower. In contrast to the deposit that must be available at all times to satisfy the initial motivation of the depositor, in the case of a loan contract there must necessarily be a term. The term limit establishes the return of the good that is being used during this period by the borrower.[3] The borrower´s sole obligation is to return the good (i.e., *tantundem* in the case of money) at the end of the term as well as to make payment of any previously agreed upon interest.

There are, consequently, several legal interpretations of a fractional-reserve demand deposit contract in a world without central banks.[4] First, the depositor thinks that he makes a genuine deposit and that the bank maintains a 100-percent reserve. The bank knows the depositor´s belief but uses (part of) the deposited money anyway. Legally, we deal here with a case of either deception or fraud.

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1 For a detailed look at the differences between deposit and loan contracts see Huerta de Soto (2009, ch. 1), Bagus and Howden (2013) and Bagus, Howden and Block (2013). For a legal analysis of the characteristics of the deposit contract see also Hualde Mano (2014).

2 In the case of fungible goods such as money, safekeeping and custody refers to the *tantundem* (an asset equivalent in quantity and quality of the deposited good).

3 Any loan transaction lacking a term is best classified as a gift (Bagus and Howden 2012; 2013fn4).

4 All participants to this debate agree that banking services would be better provided lacking deposit insurance guarantees or a central bank acting as a lender of last resort.

The second interpretation is more favorable to the bank. The depositor thinks that he makes a deposit and that the bank maintains a 100-percent reserve, while the bank believes that it receives a loan that it can use for its own purposes. In this second case, there is no meeting of the minds and the contract is null and void under standard contract law (Bagus, Howden and Block 2013). (Alternatively this could be treated as a case of mutual misunderstanding, which also results in a contract void ab initio under standard contract law.)

The third case is even more favorable to the bank as there is no misunderstanding on part of its customer. Here, the depositor wants to maintain complete availability of the deposit, and is aware of the fact that the bank receives the funds as a loan and uses it accordingly. (It is this case that Evans refers to in order to justify fractional-reserve banking.) Even in this case, the contract is null and void because the causes of the contract of both parties are incompatible. The motivation on the part of the depositor - to maintain full availability of his funds - is simply incompatible with the transfer of availability to the bank. And even if the causes of the contracts were compatible, the contract would still be null and void, because the contract is impossible to fulfill. It is logically impossible for the depositor to maintain full availability if the bank keeps only fractional reserves, since one monetary unit can only be used by one person at a time (Hülsmann, Hoppe and Block 1998: 20-22).

Traditional legal principles as well as modern contract law maintain that contracts are null and void when they are impossible to fulfill or when there are incompatible causes. Hence, legal principles require the maintenance of a 100-percent reserve in a monetary demand deposit contract (as in deposits of other fungible goods, e.g., grain or oil) in order to satisfy the custody and safekeeping obligation (the essential element of all deposits). The legalization of fractional-reserve demand deposit contracts is, therefore, a government privilege violating basic legal principles. Interestingly, this legal privilege is not extended to other fungible goods, such as oil (Huerta de Soto 2009, pp. 125, 129) or wheat (Williams 1984). Since good ethics are fostered by good laws, the legalization of an inherently illegal activity also promotes unethical practices – both on the part of bankers and depositors.

It is important to realize that the impossibility in justifying fractional-reserve banking hinges on the clear-cut distinction between deposit and loan contracts and on the fact that no mixture of the two contracts is possible. Evans (2013) argues that the clear-cut distinction is somewhat arbitrary and that contracts are possible that combine elements of deposit and loan contracts, i.e., that a mixture would be feasible. In his new response, Evans (forthcoming) returns to the question of if it is necessary that a loan contract needs a term. He maintains that the essential element (purpose) of a contract is subjective and that the depositor may be open to tradeoffs in

terms of availability. He implies that the obligation to maintain availability (of the money for the depositor) should be taken less strictly, and makes a case that hybrid contracts (using contractual innovations) cannot be ruled out.

Growing agreement

Before proceeding, we must point to the areas where agreements have been reached or are close to being so. Evans (forthcoming) agrees with BHG that it is impossible to insure fractional-reserve banking. "Insurance", the application of the law of large numbers, or entrepreneurial judgment cannot guarantee full availability of deposited money when a less-than-full reserve is held.

Another agreement has been reached in relation to the validity of certain contracts. Some defenders of fractional-reserve banking neglect the possibility that contracts may be null and void. For instance, Michael Rozeff (2010, 499) writes:

> My proposition is that in this free market characterized by willing and voluntary behavior by both depositor and banker, with all actions being known and above board, the fractional-reserve banker's actions are not inherently criminal because what private parties agree to among themselves (without coercing innocent others) cannot be called criminal.

Rozeff apparently overlooks the possibility that contracts may be null and void even if they are voluntary. Part of the title of Evans`s (2013) article, "Contractual Solutions", leads one to believe that Evans also thinks that a voluntarily agreed upon fractional-reserve banking contract can be legitimate. Evans (forthcoming) clarifies his position and explicitly agrees that voluntary agreed upon contracts can in principle be null and void and cites (p. 2) the examples of an assassination contract or a contract consented to by a child. The acknowledgement that a voluntarily agreed upon contract can be null and void is a remarkable breakthrough in the debate, since this raises the burden of proof that a fractional-reserve demand deposit is legal beyond the necessary but not sufficient condition of whether it is voluntarily agreed to. We may then ask if a fractional-reserve demand deposit contract can be valid in principle. Evans (forthcoming, p. 2) apparently agrees that one reason for a contract to be invalid "is in cases where there´s no ´meeting of the mind´",[5] but he claims this needs to be demonstrated and not simply asserted.

[5] In terms of Roman law, we would speak of an "error in negotio."

A survey of depositors by Evans shows the evidence is mixed: “Although some people are ignorant of the banking system, others aren´t” (2010, p. 2). Evans himself admits that some people are ignorant of the banking system. They do not know that the bank uses the deposited money for its own purposes. And if these depositors are ignorant on a vital characteristic of the contract, obviously there is no “meeting of the minds”. In reality there are some depositors who do “not understand the nature of fractional-reserve banking“ (Evans forthcoming, p. 2) and oppose the use of their deposited money. According to Evans’ survey (2010), one-third of all interviewed people opposed the bank´s use of their deposited funds.[6] Consequently, following Evans´ logic, he must regard roughly one-third of existing deposit account contracts as being invalid or unjust. Thereby, Evans makes an important, though not yet sufficient, step in the right direction.

An agreement seems also to be close when it comes to the question of whether loans require a term. Bagus and Howden (2009) argue that one important difference between a deposit and a loan is that a deposit does not have a term as it is always available to the depositor. Evans (2013) argues that there may be loans without a term, using the example of lending money to a friend without specifying a term. The essential element of the loan contract is the transfer of availability of the good from the lender to the borrower thus there is always a minimum term implicit in any loan contract.[7] At a minimum the borrower needs some time to use the borrowed good, e.g., if we lend a book to a friend he needs time to read it, which is the implicit minimum term. (The implicit minimum term could also be until our next meeting.) Such examples show how tacit agreements as to minimum term limits arise in everyday circumstances.

The same is true if I lend cash to a friend. After a period of time passes and she does not repay me, I may well get upset and demand repayment or convert the loan into a gift. We agree with Evans (forthcoming) that a loan does not always *explicitly* mention a term. In familiar situations, implicit agreement is sufficient to understand the terms of a contract. In contrast, there is simply not enough confidence and trust to have the term fixed only tacitly with a stranger. Evans seems to argue that people have sufficient trust in a banker that they may lend cash to him without a term in a fractional-reserve demand deposit. Even if such a tacit agreement between a lender and his banker friend did exist, it does not erase the fact that the banker still requires a minimum term – even if

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[6] The question of the survey was (Evans 2010): “You may or may not have been previously aware that banks lend out some of the money deposited within current accounts by their customers to fund loans. Which of the following best describes how do you feel about the fact that your bank lends out some of the money in your current account as loans?” One-third of the interviewed people answered: “This is wrong – I have not given them my permission to do so” showing a clear lack of a ´meeting of the minds´.

[7] When Evans (forthcoming, p. 3) writes : “Let’s for the sake of argument accept that there must be an implicit minimum and maximum term”, he agrees with us only rhetorically that a loan needs a term but does not apply this insight to any of his arguments.

not explicated – to make use of a loan. Availability and use cannot be transferred, as they must be in a loan, without a minimum time period for this to occur.

Remaining disagreements

Is solvency a substitute for availability?

Evans (forthcoming, p. 2) challenges BHG for not responding to his arguments as to "how solvency issues can have a bearing on liquidity provisions." This point is especially important to his argument, as Evans (2013, p.13) strived previously to "[shift] the debate away from notions of fraud and onto solvency."

This form of argumentation is common among the literature dealing with the issue of what "availability" of a deposit (a factor that exacerbates the solvency problem) entails. Huerta de Soto (2009, 147-48) deals with this type of attempt to justify fractional-reserve banking that tries to redefine the concept of availability:

> Some have tried to solve this contradiction [the obligation of maintaining full availability in deposit contracts and the practice fractional-reserve banking] by ´redefining´ availability. In fact, for subscribers to this line of thought, availability need not be understood in a strict sense (100-percent reserve ratio or keeping the tantundem available to the depositor at all times), but could be interpreted in a ´lax´ one: for example: the ´general´ solvency of the bank by which it meets its obligations; ´prudent´ investing; avoidance of high-risk speculation and the corresponding losses; maintenance of appropriate liquidity and investment ratios; and in short, compliance with an entire body of rigorous banking laws, which together with the hypothetical operation of the ´law of large numbers´ in the opening of deposit accounts and withdrawal of demand deposits, could ultimately guarantee the bank´s ability to return deposits whenever requested by a depositor.

We agree with Evans, and regard it as common knowledge, that the solvency of a financial institution may affect its liquidity and vice versa. This is not the issue at stake. The important question is if solvency guarantees the fulfillment of the contractual obligations of a demand deposit contract. To this question the answer is negative. Solvency is neither a necessary nor a sufficient requirement to fulfill the contractual obligations of a deposit.

Consider an insolvent bank that maintains 100-percent reserves and can fulfill all the contractual obligations with its depositors at all times. Depositors do not suffer any losses, as those fall only on the bank's creditors (and its shareholders) as in the case of the insolvency of Bank A.

Bank A

Assets		Liabilities	
Cash	1,000	Term Deposits	1,900
Mortgages	2,000	Demand Deposits	1,000
		Equity	100
Total Assets	**3,000**	**Total Liabilities**	**3,000**

A default of at least $100 on its mortgage portfolio would render Bank A insolvent but would leave all demand deposits covered by the cash on hand (the 100-percent reserve). The creditors who lent money to the bank would shoulder any losses, receiving only the market value of the outstanding mortgages. Now consider a solvent bank that does not hold a100-percent reserve and is not fulfilling the contractual obligations of the demand deposit contract.

Bank B

Assets		Liabilities	
Real estate	1,000	Term Deposits	7,000
Mortgages	8,000	Demand Deposits	2,000
Cash	1,000	Equity	1,000
Total Assets	**10,000**	**Total Liabilities**	**10,000**

Bank B is solvent, but it is not fulfilling its contractual obligations with its depositors. By not hold 100-percent reserves, when depositors want to withdraw their deposits, they will first have to wait for Bank B to liquidate its investments (either by selling real-estate at market value or waiting for its mortgage portfolio to mature). During this waiting time, depositors are converted into forced lenders to the bank, *even though the bank remains solvent*.

Moreover, by violating its obligations the solvent bank is digging, in a sense, its own grave. When the bank appropriates deposited funds and expands credit, i.e., grants additional loans unbacked by real savings, it may trigger an unsustainable boom.[8] In the inevitable bust, many bank assets lose value and banks that appeared highly solvent during the boom may succumb to solvency problems. As bank assets drop in value, depositors may lose confidence in their bank and withdraw deposits accordingly, ultimately causing a bank run. In other

[8] On Austrian business cycle theory see Mises (1953, 98), Hayek (1931) or Huerta de Soto (2009).

words, fractional-reserve banking that allows for credit expansion itself sets in motion a process of boom and bust that may cause banks to have liquidity, and eventually solvency, issues.[9] The fractional-reserve banking system sows the seeds for its own demise. Solvency (especially during a boom) is simply not a sufficient condition to fulfill the obligation of full availability for all depositors at all times.

Is simultaneous availability of scarce resources possible?

Evans (2013, p. 4) argues that "it is not necessarily true that the 'availability' of the money must reside with a single person. The 'availability' is not fixed and need not be transferred in its entirety. Is it not possible for two people to share the availability of an asset?" Here he seems to confuse ownership with availability. One can have joint ownership of a scarce resource but it is available only to one person at any time. BHG introduced the example of a jointly-owned tennis racket, which can be used to play tennis at any given point of time by one person. One problem with fractional-reserve banking is precisely that both the bank and depositors think they can use the money simultaneously. The bank lends the funds out and the depositor considers his account´s balance when he makes purchases. The apparent problem is when both parties try to simultaneously make use of a jointly-owned deposit. The bank run is one apparent manifestation of the impossibility of "joint-availability".

Evans (forthcoming, p.3) replies that "[t]his is like saying that the joint owners of the tennis racket both believe that it is available to them." In the case of joint ownership of the tennis racket, however, there is no problem if they do not believe that they can use the racket simultaneously. Both owners know that only one of them can use the racket at a time and they may establish rules of usage to avoid conflicts. For instance, they may establish that the racket´s use alternates every other day. Property rights are clearly defined.[10] Such a solution is not possible in modern banking. In the case of fractional-reserve banking it is unclear who the actual owner of the money is and to whom it is available.[11] Both the banker and depositor simultaneously believe (for good reason) that the money

[9] It is striking that Evans (forthcoming, p.3) calls a bank run a "freak event." Fractional-reserve banking systematically causes such "freak events" in the absence of a central bank functioning as a lender of last resort. Nevertheless, we must point out that the economic fact that fractional-reserve banking triggers the process that leads to bank runs does not affect our legal assessment of the fractional-reserve demand deposit contract.

[10] BHG do not suggest that in the case of the jointly owned tennis racket there is an "interfering with other people´s property" as Evans seems to believe (forthcoming, p. 3). The tennis racket example was just to show that there is a difference between joint ownership, which is possible, and joint availability, which is impossible.

[11] Depositors not only believe they have full availability of the money in their accounts. According to Evans' own survey evidence, 74 percent of respondants even believe they are the "legal owner of the money in their current account", while under current banking law, the bank is the owner (Evans 2010).

is available to them (Huerta de Soto 2009: 186).[12]

Evans (forthcoming, p. 3) acknowledges that the joint owners of the racket cannot use it simultaneously but asks "so what?" Apparently, a tennis racket must not be available at all times, but only when one wants actually to play. Yet, the purpose of a deposit is full availability. This is because money is demanded to meet uncertain future pecuniary obligations. Since these are unknown in advance (both in terms of their timing and magnitude) the depositor demands a product to meet these uncertain demands. Money must be available to fulfill the purpose of reducing uncertainty. Money is not only useful at the moment transactions are made (in contrast, rackets only fulfill their purpose while actually playing tennis). Cash holdings meet their purpose at any time by hedging felt uncertainty by being the good able to procure as yet unknown future expenditures.[13] In order to reduce uncertainty the cash holding must be completely available otherwise there is no guarantee it will be ready when the depositor needs it. Note further that there is no trade-off possible when it comes to full availability in a deposit contract. Whenever a depositor thinks that the sum that appears in his bank account is available to him, there can be no trade-off as it is a deposit from his point of view. The survey evidence shows that practically all of those interviewed want convenient access or safekeeping of their money (Evans 2010). Even the 10 percent that keep money in deposit accounts mainly because it earns interest may well think that the money is available to them at all times and demand that the money is always available. (There are reasons to doubt the veracity of this reply as if the motivation was to earn interest there are far better options available than the niggardly deposit account.)

Do contracts have an objective reality?

Subjectivism in economics means that the individual actor is the subject of investigation and the basis of all economic laws. The individual values his ends and means, not a holistic group or an objective outside observer. Evans (forthcoming, p. 4) asks "[h]ow can we infer the 'essential element' of a contract if an individual's motivations for holding it are multiple and involve trade-offs [if we subscribe to subjectivism]?" (By way of analogy he asks "[w]ould BHG claim that the purpose of a hammer is to bang in nails?") Evans implies that the essential element (or cause) of a demand deposit contract depends on subjective will.

While value is subjective, there exists an objective world, objective economics laws, and most importantly for

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[12] In this way, some have argued that fractional-reserve banking resembles a tragedy of the commons situation (Huerta de Soto 2009, 666-69; Bagus 2004, 2011).

[13] See Hutt (1956) and Hoppe (2009) for the use of money held in ´idle´ cash balances.

the task at hand, objective legal principles. Deposit contracts are governed by these legal principles.

We should not confuse the objective characteristics of an entity with the subjective purpose it fulfills in the plans of an individual actor.[14] A hammer has a head and a handle. These are the hammer´s objective characteristics. The individual´s purpose is subjective: the hammer may be used to bang in nails or to scratch one's back or to some other end. Similarly, a sales contract has the objective characteristic of transferring property from the seller to the buyer permanently, while a loan contract transfers property only temporarily. While the values at stake are subjective, the transaction is not. Objectively, a sales contract may be used to purchase a house, a car, to earn a monetary profit in a business, etc. Similarly, an objective characteristic of a deposit contract is that its essential element is safekeeping, which guarantees full availability.[15] The value the depositor places on this end is subjectively derived, which in turn will determine whether the deposit will be used to purchase stocks after a market correction, helping a family member in the case of an emergency, or whatever the most highly (subjectively) valued end is. Subjective valuation places the good in a certain position in the individual's rank ordering of preferences. It does not mean that the characteristics of the "deposit" are whatever the individual "subjectively" believes them to be, in the same way that the primarily characteristic of a sale contract cannot be anything other than the permanent transfer of property from the seller to buyer.[16]

In short, there are subjective and objective characteristics of deposit contracts. Subjective characteristics include the value the actor attaches to the contract as well as the specific end the actor attempts to achieve with the deposit. Objective characteristics include the essential element of deposit contracts, i.e., to maintain availability of the deposits good, the absence of a maturity term, or the fact that money (e.g., in the form of a deposit) is held to mitigate felt uncertainty. The subjective characteristics to which Evans correctly points cannot override the objective ones. Rather, we subjectively value the objective attributes of a good to decide how it will serve our subjectively valued ultimate ends.

Does the change of terms and definitions affect the legitimacy of fractional reserve banking?

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[14] Rothbard (2011, 171-72) reminds us concerning the meaning of subjectivism in economics: "[R]ecent Austrian paradigms have allowed ´subjectivism´ to run riot: to extend from legitimate subjective value theory to a virtual denial of the objective existence of the real world, of the objective laws of cause and effect, and of the objective validity of deductive logic." In short, a real world exists with objective legal principles and deposit contracts with an objective "essential element".

[15] On the practical meaning of full availability see Bagus and Howden (forthcoming).

[16] Stated another way, subjectivism determines the value of a deposit and the quantity of deposits that an individual demands. Subjectivism does not (cannot) alter *what* a deposit is.

As a reconciliatory solution, Evans (forthcoming, 5) claims that changing the name of the contract would make fractional-reserve banking legitimate: “To the extent that we call it [the fractional-reserve demand deposit] a checking account, instead, should make BHG’s concerns evaporate.” He also adds that “[t]he understanding of the term ‘demand deposit’ ´can change.”

It is true that the meaning of terms changes and can even turn into their opposite, which is a major theme of George Orwell´s novel “1984”. A real world example is the meaning of the term “liberal” which has changed in the United States to denominate an end of the political spectrum which is opposite to the one that it originally denominated and in Europe still does (Raico 2012). Yet, the changing of the terms does not affect the objective reality they describe. The understanding of the term “liberal “ or “demand deposit” may change, but not the essence that they originally described.

Similarly, we can put different names to these essences. We may call the political agenda in favor of private property rights “communist” instead of “liberal” or we may call deposited funds a “checking account.” The change in words does not affect the nature of the problem nor its underlying reality. Changing terms does not affect our legal analysis, in the same way that political theory did not need to be reformed when the term “liberal” described different people was the case previously.

“Hybrid” contracts

Evans (forthcoming, p. 4) challenges the BHG view that deposits are one thing and loans another and he claims that mixtures are feasible. He (2013) introduces a time deposit contract with a notice of withdrawal clause that is not invoked routinely as an example of a hybrid contract melding attributes of deposits and loans.

On the one hand a “time deposit” *could* be a genuine loan contract with an established term. In this interpretation it is a legitimate contract with a somewhat misleading name.[17] As in common practice, the borrower (the bank) in this loan contract could voluntarily return the money earlier on request. Alternatively, the lender (the “depositor”) could never ask for the money back, making it a gift (as is the case with dormant bank accounts). Note at this interpretation of a time deposit is not merely a relabeled version of modern-day deposit accounts. In this interpretation a loan has actually been made, and there is no expectation on the side of the lender that he can have access to it prior to maturity.

[17] Technically this product would be more aptly called a short-term loan with an embedded extension option at the discretion of the lender (Bagus, Gabriel and Howden forthcoming).

On the other hand, a "time deposit" where the lender to the bank could in practice withdraw the money at any time (perhaps due to a not routinely invoked withdrawal clause) with negligible penalties and where the lender counts on this possibility is for all practical purposes, a "demand deposit contract". In this case we are not faced with a hybrid but have an example, depending on the exact circumstances, of either a genuine loan contract or a genuine demand deposit contract to which the traditional legal obligations apply.

Similarly, a "renewing loan of a 1 minute term" is for all practical purposes a demand deposit, as people will regard the money continuously available to them and the limited duration of the loan gives little to no scope for use of the lent sum. Evans asks (forthcoming, p.4) how we can know if customers regard the money in the "time deposit" to be continuously available. Alternatively, Evans could also have asked at which term the "renewing loan" turns into a genuine loan: one minute, one hour, one day, one week, one month, three months, etc.? These are legitimate questions that ultimately must be decided, as with other grey areas in the application of the law (e.g., murder vs. self-defense) by the legal system.[18] To inform his adjudication of a dispute, a judge makes use of legal principles such as those set forth in this article and not the subjective desires of the interested parties. A murderer may claim that he acted in self-defense, but the judge must rule not according the defendant's subjective interpretation of the events but rather objectively according to the law, actions and the intents of all relevant parties.

BHG (2015) argue that a mutual fund could offer both high liquidity and a positive return on the investment, attributes (or margins) which Evans often implies depositors demand on their deposit accounts. However, mutual funds cannot be conceived as a hybrid between deposits and loans. In loan contracts, the lender receives at the end of the term a nominally fixed sum as is also the case with a deposit. Unlike a deposit, a mutual fund does not offer a nominally fixed claim but fluctuates in price. Although typically redeeming at par value, "breaking the buck" is possible, the legal system allows for it, and (most importantly) both parties, lenders and borrowers,

[18] Evans (forthcoming, 5, fn. 8) similarly states: "In other words, they [BHG] say that a time deposit with a withdrawal clause, that operates as a demand deposit, suffers from the same illegitimacy as an actual demand deposit. But this de facto/de journo [*sic*] distinction isn't clear cut." In theory the distinction is clear-cut. Everything that resembles a demand deposit with its typical characteristics is a demand deposit and the traditional principles apply. Everything that resembles a loan is a loan. In practice, judges must decide. But the fact that judges must decide does not imply that there are hybrid contracts, nor that there is overlap between deposit and loan contracts such that some hybrid contract is, e.g., 50% deposit and 50% loan. Note that the legal system does not adjudicate that the defendant acted 50% in self-defense and 50% in first degree murder, nor that an advertising campaign is only 25% deceptive.

agree to this eventuality (Bagus, Gabriel and Howden forthcoming). In many ways some mutual funds may be similar to deposits, but in important ways they differ which makes them poor substitutes.

Furthermore, it is important to clarify that fractional-reserve banking adds an additional layer of uncertainty vis-à-vis full-reserve banking. If the traditional obligations of the demand deposit contract are fulfilled (and no crime or natural catastrophe has occurred), there will always be complete availability of the money to the depositor. In fractional-reserve banking, however, it becomes "legal" for the money to be used by the bank and not to be available at all times to the depositor. Fractional-reserve banking allows one of the parties to decide if the contract can be honored while with full-reserve banking there is no such discretion.[19]

Evans (forthcoming, p. 4) adds the following analogy to stress his point: "The logic of BHG implies that if you go to the supermarket to buy a litre of milk you do so without knowing whether there will be any there. This is true. But it is reasonable to expect that there will be." The analogy does not apply, though, to banking in general and full-reserve banking in particular. In the first place, you have not pre-contracted with the store to sell you milk, in contrast with banking where all contracts – deposit and loan – give you the right to receive something in the future. Furthermore, BHG are not analyzing the probability of money or milk being available but the ethical legitimacy of holding fractional reserves. If contracts are fulfilled in full-reserve banking, the depositor's money is available. In contrast, the milk may not be available even though no contract has been violated. Moreover, if all customers come to buy milk the price of milk can rise to clear the market.[20] If there is a bank run in a fractional-reserve banking system, not all depositors can be satisfied as the price of money is set in terms of itself and cannot vary to clear the market. The bank run can only be solved by forcing depositors to become creditors or convert their par-value deposit into a market-value equity share in the bank. Alternatively, the bank may go bust; not so the supermarket. Finally, if one milk bottle is discovered to be empty, this does not induce a run on the supermarket, as is the case when a bank cannot redeem a depositor´s funds.

Mayonnaise and legal aberrations

[19] This point is especially important as all sorts of financial contracts contain "Act of God" clauses to indemnify the relevant parties for events outside of their control. One advantage of an irregular money deposit is that the depositary is responsible for the loss of money even in the case of an "Act of God" (Huerta de Soto 2009, p. 7).

[20] Price changes in response to supply-demand conditions to alleviate shortages or avoid surpluses are an omnipresent feature of market economies. Retailers change thousands of prices on a daily basis. Amazon changes even millions of prices (Wilson 2013).

Although he offers the example tongue in cheek, Evans' query as to "What is Latin for 'Mayonnaise'" is instructive. The question reminds us that there are innovations in cooking that make possible the mixture of liquids that were once considered unmixable. Evans seems to imply that similarly there may be legal innovations that "mix" contracts that were previously considered unmixable. Mayonnaise was an 18th century innovation; therefore no Latin name exists for it. Similarly, Evans seems to suggest, the Roman legal theorists who provided the foundation of all modern civil legal systems, as well as influenced common law systems, had no name for the fractional-reserve demand deposit contract, but knew only of deposits and loans.

There are several responses possible to the "innovation argument". First, even though we are not specialists in cooking but rather in economics and legal theory, it seems to us that mayonnaise is not mixture of oil and water, but rather of oil, egg yolks and either vinegar or lemon juice. Yet, it appears that chemists have created conditions where oil and water can mix by heating water under pressure to 374 degree Celsius (Deguchi and Ifuku 2013). Be it as it may be, for all practical purposes and under normal conditions it remains impossible to mix oil and water. Moreover, when dealing with fractional-reserve banking we deal not with possibilities from the natural sciences but with the logic of human action. It lies in the logic of human action that it is impossible to have a valid contract, where the essential elements are the complete availability and transfer of availability of a sum of money at the same time.[21]

Second, Evans is correct when he points out that language and legal rules evolve. In language, new words evolve such as "Smartphone," which was unused until a few years ago. People have even come up with a Latin word for mayonnaise ex post: magonicum. Yet, while words or even grammar may change, there are some language principles that are logically unassailable. Every sentence has at least one subject and a predicate, otherwise it is simply not a complete sentence. [22] The same is true for law.

[21] The natural sciences have proved that time moves backwards when one exceeds the speed of light. No serious economist would use this to argue that time preference does not cause higher valuations on present than future goods.

[22] Linguists agree that the predicate is the core of a complete thought and thus a necessary part of every sentence. (Otherwise the statement would lack meaning.) The subject is also necessary but can be implicit, as is the case with the English imperative, e.g., "Jump!" whereby the subject ("you") is implied by the predicate. Similarly, the loan´s term must be established at least implicitly in order to give meaning to the action of lending. On subject and predicate being necessary parts of a sentence see Rowe and Levine (2014, p. 113).

Legal rules evolved spontaneously based on timeless, or logical, principles (e.g., thou shalt not kill, a sale cannot simultaneously be a gift, etc.).[23] Innovations, such as novel applications of contracts to new areas are possible and necessary. For instance, today people may rent the womb of a woman to carry a baby to term. Such an application did not exist in Roman times. Yet, the traditional legal principles regulating the rental agreement already existed in Ancient Rome. Innovations to the underlying principles of law are not possible. A contract where one party rents while the other party buys the good in question, remains invalid. Similarly, no hybrid of deposit and loan contracts is valid.

A valid contract must fulfill traditional legal principles, in Roman times, today and in 1,000 years. Traditional legal principles like "in dubio pro reo", "pacta sunt servanda", or "ultra posse nemo obligatur" are not open for innovation.[24] They reflect human nature because they have emerged over generations in an evolutionary process of trial and error in which those customs and habits gradually became more widespread and thus enabled successful behavior. As Rothbard (2011, p. 196) puts it in relation to habits: "…the habitual repetition means that these actions have repeatedly been successful in bringing about a person´s goal." Mises (1962, p. 15) similarly writes: "Only those groups could survive whose members acted in accordance with the right categories, i.e., with those that were in conformity with reality and therefore – to use the concept of pragmatism – worked." In other words, legal customs and principles have been adopted because they allow for successful behavior, reducing conflicts and achieving personal ends more effectively.

In relation to the wisdom of law that evolved in society over generations apart from the state, Bruno Leoni cites Cato's words (1991, p. 89): "there never was in the world a man so clever as to foresee everything and that even if we could concentrate all brains into the head of one man, it would be impossible for him to provide for everything at one time without having the experience that comes from practice through a long period of history." In short, it is hubris to think that traditional legal principles implied in our human nature can be overturned and that fractional-reserve demand deposits can be justified. A hybrid of deposits and loans violates these principles.[25]

[23] On the evolutionary origin of institutions see Menger (2007). See Hayek (1973), or Leoni (1991) for the evolution of law.

[24] Of course, we might imagine a society where "in dubio pro reo" is turned on its head and the accused must prove his innocence. Yet, we would consider such a principle not only unjust but it would cause severe social problems due to the rights violations of the accused innocents, and would likely be short-lived.

[25] See Hayek (1973, 1989) for a defense of historically evolved institutions against attempts to improve them by deliberate planning.

The legal principles that unfolded historically are not arbitrary or changeable at will. As Mises (1962, p. 14) points out, there are some immutable principles: "Although logic, mathematics, and praxeology are not derived from experience, they are not arbitrarily made, but imposed upon us by the world in which we live and act and which we want to study." Similarly, there are immutable legal principals.[26]

Third, Evans gives the impression that Roman legal theorists did not know what fractional-reserve banking was and therefore had no term for a valid contract, since the innovation came only later (as with the invention of mayonnaise). While in theory and according to the law Roman bankers could not use their depositors' funds, in practice they often did. Roman bankers did not always behave honestly. The deposited funds were too tempting. While Romans did not cook with mayonnaise they were familiar with what today is called fractional-reserve banking (Huerta de Soto 2009, pp. 53-56, see also Collins and Walsh 2014).

As a result, Roman jurists also dealt with and analyzed the practice. In their analysis they emphasized the difference between loan and deposit contracts. They pointed out that when interest was paid, the contract was a loan, not a deposit. The Roman jurists maintained that the obligation in a deposit contract was to maintain full availability to the depositor. Roman jurists dealt also with the procedure to take when the safekeeping obligation was violated. When bankers failed to return deposited money on request, they were guilty of the crime of theft (Huerta de Soto 2009, p. 32). In face of the practice of fractional-reserve banking, the famous 3rd century jurist Ulpian concluded that ¨aluid est credere, aluid deponere": a loan is one thing, a deposit is another.

Conclusion

The explicit acknowledgment that voluntarily agreed upon contracts may be legally invalid and thereby unethical has shifted the debate onto a new level. Other fractional-reserve bankers such as Michael Rozeff fail to make this acknowledgment. Evans even concedes that a "meeting of the mind" is a necessary condition for a valid contract. The implications for today´s banking system are revolutionary since it seems that there is no meeting of the mind for a large portion of today´s demand deposit contracts.

What still divides us is the fact that we think that there are other legal principles that must be fulfilled to have a valid contract besides a "meeting of the mind." To wit: For a contract to be valid, the causes of the contracting

[26] Legal principles can be found *a priori* by human reason. In addition to more recent expositions, e.g., Block (2001) and Hülsmann (2004), there are the more traditional strands of legal apriorism, both nominalist (Kant 1990) and realist (Reinach 1989).

parties must be compatible. Moreover, it must be possible to fulfill the contract. If one takes these two legal principles into account, fractional-reserve demand deposits (mixtures of deposit and loan contracts) must be regarded as invalid and, consequently, their enforcement to be unjust.

We finish with another attempt of conciliation: We feel that Evans´ main concern is with individuals who want to "trade-off" availability and yield on investment on the margin. It seems to us that Evans fears that without fractional-reserve banking such wishes would be impossible to fulfill. To this fear we may put Evan´s mind at ease. An individual may use several legitimate legal entities with different and clearly defined functionalities such as loan contracts and deposit contracts. He may also invest in mutual funds. A loan (or bond) has a nominally fixed yield, but there is no availability of the invested money before the end of the term.[27] Investment funds offer variable yield though they are redeemable on demand. A demand deposit is a financial innovation in the sense that a perfect money substitute is created. Like money, it is the only asset that redeems at par value, on demand (Howden 2015).

One could believe that a trade-off between availability and yield is only possible by producing a "hybrid contract". Such hybrids violate legal principles and produce social harm. Yet, a trade-off and changes at the margin concerning availability (or liquidity) and yield can be achieved by an individual simply through a combination of these clear cut, straightforward and legitimate alternatives. Any individual may decide which part of his wealth he wants to hold completely available in form of a deposit, which part he wants to lend and which part to invest. Through changing the weight at the margin, any trade-off between yield and availability is possible and legitimate, without producing severe legal problems by violating traditional legal principles and causing social harm in form of business cycles.

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[27] The investor may try to recuperate the money through sale of the bond or loan. But this will take time and involves sacrificing the bond´s fixed yield for the prevailing market value at the time of sale.

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