

The Great Fractional Reserve/Freebanking Debate

by STEPHAN KINSELLA on JANUARY 29, 2016

Back in the 1990s there was a fascinating debate carried on among various Austrians, mostly in the pages of the [*Review of Austrian Economics*](#) (RAE) or [*Quarterly Journal of Austrian Economics*](#) (QJAE), on the issue of fractional-reserve banking and so-called free banking. On the one hand were Rothbardians such as Hoppe, Hülsmann, Huerta de Soto, and Salerno; on the other, supporters of freebanking such as Selgin, White, Dowd, and Horwitz. The Rothbardians believe fractional-reserve banking is unstable and fraudulent; the free bankers disagree. My own take is that the Rothbardians are right on the economics, although I think the fraud charge could be obviated with sufficient warnings to customers and recipients of FRB notes.

I've compiled below a chronological listing of these pieces, and a few other works, with links to online versions, where available, for those who feel like reading up on this interesting issue. This is basically a (skeletal) ebook.

If anyone is aware of any significant material I have omitted, please let me know.

Background material:

- Mises, [*The Theory of Money and Credit*](#) (1912) and [*Human Action*](#) (1949)
- Rothbard, [*The Mystery of Banking*](#) (1983/2008) and [*The Case for a 100 Percent Gold Dollar*](#) (1962)
- Lawrence H. White, [*Free Banking in Britain: Theory, Experience, and Debate, 1800–1845*](#) (1984) and [*Competition and Currency: Essays on Free Banking and Money*](#) (1989/1992)
 - Larry J. Sechrest, [*White's Free-Banking Thesis: A Case of Mistaken Identity*](#), RAE, Vol. 2 (1988)
- George Selgin, [*The Theory of Free Banking*](#) (1988)
 - Rothbard, [*The Myth of Free Banking in Scotland*](#), RAE (1988)
 - Joseph T. Salerno, [*Mises and Hayek Dehomogenized*](#), RAE, Vol. 6, No. 2 (1993)

- Block, “Fractional Reserve Banking: An Interdisciplinary Perspective,” in *Man, Economy and Liberty: Essays in Honor of Murray N. Rothbard* (1988)
- Steven Horwitz, *Monetary evolution, free banking, and economic order* (1992)
- Sechrest, *Free Banking: Theory, History, and a Laissez-Faire Model* (1993)
 - *Review* by John Cochran
- Kevin Dowd, *Laissez Faire Banking* (1993)

Main debate:

- Hans-Hermann Hoppe, *How is Fiat Money Possible? or, The Devolution of Money and Credit*, *RAE*, Vol. 7, No. 2 (1994)
- Jesús Huerta de Soto, *A Critical Analysis of Central Banks and Fractional-Reserve Free Banking from the Austrian Perspective*, *RAE*, Vol. 8, No. 2 (1995)
- Jörg Guido Hülsmann, *Free Banking and the Free Bankers*, *RAE*, Vol. 9, No. 1 (1996)
- Walter Block & Kenneth Garshchina, *Hayek, Business Cycles and Fractional Reserve Banking: Continuing the De-Homogenization Process*, *RAE*, Vol. 9, No. 1 (1996)
- George A. Selgin & Lawrence H. White, *In Defense of Fiduciary Media—or, We are Not Devo(lutionists), We are Misesians!*, *RAE*, Vol. 9, No. 2 (1996)
- Parth J. Shah, *The Option Clause in Free-Banking Theory and History: A Reappraisal*, *RAE*, Vol. 10, No. 2 (1997)
- Hoppe, with Hülsmann & Block, *Against Fiduciary Media*, *QJAE*, Vol. 1, No. 1 (1998)
- Pascal Salin, *Free Banking and Fractional Reserves: A Comment*, *QJAE*, Vol. 1, No. 3 (1998)
- Hülsmann, *Free Banking and Fractional Reserves: Response to Pascal Salin*, *QJAE*, Vol. 1, No. 3 (1998)
- Jeffrey M. Herbener, *Ludwig von Mises on the Gold Standard and Free Banking*, *QJAE*, Vol. 5, No. 1 (2002)

- White, [Accounting for Fractional-Reserve Banknotes and Deposits—or, What’s Twenty Quid to the Bloody Midland Bank?](#), *Independent Review*(Winter 2003)
- Hülsmann, [Has Fractional-Reserve Banking Really Passed the Market Test?](#) *Independent Review* (Winter 2003)

Two books that came out after the initial debate had mostly died down:

- Huerta de Soto, [Money, Bank Credit, and Economic Cycles](#) (2006)
- Hülsmann, [Theory of Money and Fiduciary Media](#) (2012)

Subsequent blog discussions and articles:

- Block, [Walter Block versus Bryan Caplan on Fractional Reserve Banking](#), *LewRockwell.com* (Nov. 1, 2008)
- Block, [Is Fractional Reserve Banking Fraudulent?](#), *LewRockwell.com* (Nov. 6, 2008)
- Peter Boettke, [Mises and Free Banking — Why Is There a Debate?](#), *Coordination Problem* blog [formerly Austrian Economists blog] (May 7, 2010)
- Steve Horwitz, [comment](#) on Boettke (May 7, 2010)
- Salerno, [Selgin Contra Horwitz and White on Mises’s View of Fiduciary Media](#), *Mises Blog* (March 16, 2010)
- Selgin, [100 Percent Reserve Money: The Small Change Challenge](#), *QJAE*, Vol. 12, No. 1 (2009)
- Mark Thornton, [Short Changing 100 Percent Reserves](#), *QJAE*, Vol. 13, No. 2 (2010)
- William N. Butos, [Monetary Orders and Institutions: A Hayekian Perspective](#), *QJAE*, Vol. 15, No. 3 (Fall 2012)
- Philipp Bagus, [Austrian Business Cycle Theory: Are 100 Percent Reserves Sufficient to Prevent a Business Cycle?](#), *Libertarian Papers*, Vol. 2 (2010)

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Fractional Reserve Banking: An Interdisciplinary Perspective

Walter Block

Freshman economics students are taught to understand the miracle of fractional reserve banking: it can create money out of thin air! Kindergartners are encouraged to save their pennies at institutions based on this system. Fractional reserve banking (FRB) is a pillar of our community, the underpinning of our entire banking system. There are even many libertarians who favor the arrangement. Professor Murray N. Rothbard, a staunch critic of FRB,¹ has been widely attacked on his stance, even by libertarians.² I think it is no exaggeration to characterize FRB as almost universally beloved, defended by people from virtually all shades of political opinion. Yet, as will be shown in this paper, FRB is a fraud and a sham, whose intellectual pretensions of honesty deserve to be exposed once and for all.

What, exactly, is fractional reserve banking? Since we are dealing here with a classical case of “The Emperor Having No Clothes,” FRB can perhaps best be explained by the use of a fairy tale:

Once upon a time, in a land far, far away, at a time long, long ago (when the gold standard was in its infancy) there lived a goldsmith, humble, meek and pure.

Since the goldsmith had the strongest safe in town, the people were accustomed to leaving their jewelry, gold, and other valuables with him. The goldsmith, for a small fee, would give the townsfolk a receipt for leaving their deposits with him. The receipt would say that: “Jones has deposited ten (10) ounces of gold with Humble, Meek, and Pure Goldsmith to the trade; Humble, Meek, and Pure Goldsmith will, therefore, pay to the bearer of this note, ten (10) ounces of gold, on demand.”

The citizens of the town, lazy by disposition, though highly aware of the cost of goods like shoe leather, food, hay for their horses, etc., would rarely go to the goldsmith to withdraw their gold before making a purchase. Rather, they would merely hand over the receipt for gold to the tanner, the food supplier, or the merchant at the stable. The merchant would accept this note for his goods knowing that he, too, could trade it for something else, or return it to Humble, Meek, and Pure Goldsmiths, and receive his 10 ounces of gold, on demand.

All was well with this tranquil tale until the Wicked Witch of the West cast a spell over the goldsmith's wife and made her covetous, dissatisfied, and consumed with a passion for expensive living. She, in turn, "leaned" on her husband. She gave the goldsmith not a moment's peace until he concocted a "brilliant" scheme for "earning" more money. The goldsmith realized that most of the villagers were content to leave their gold permanently on deposit, and that those few who withdrew gold spent it in such a way (on local merchandise) that it would eventually reach him again. So the goldsmith took some of the hard earned gold that had been entrusted to him and *gave it to his wife to spend on fripperies*. Other funds that did not belong to the goldsmith were, nevertheless, lent out by him, the proceeds going to his good lady.

Noticing that his previous financial manipulations went undiscovered, the goldsmith escalated. Now, not content with seizing the gold belonging to others, he manufactured receipts for gold that *had never been given* to him; he thereupon turned these notes over to his favorite charitable cause, and she went out and spent them.

This particular fairy tale ends happily—for the goldsmith and his wife, that is. Their financial irregularities are never discovered, and the townspeople remain content to leave their valuables with the goldsmith and to use his ever increasing bank notes to transact business.

The question we are faced with is: How is fractional reserve banking to be evaluated? (We formally define FRB as a system where some fraction less than 100% of the assets is kept on reserve against the deposits outstanding).

The goldsmith's first method, giving his wife gold that had been entrusted to his care, is a rather straightforward case of embezzlement.

(Webster defines embezzlement as “to appropriate property entrusted to one’s care fraudulently, to one’s own use.”) It may well be true that such a great amount of trust and goodwill had been built up in the business that none of the townspeople would be suspicious of the malappropriation. If this is so, then there will be no ruinous run on the bank. But this means only that the embezzlement will not be *discovered*, not that it did not take place.

The second method, giving his wife warehouse receipts for non-existent gold, is likewise a clear example of counterfeiting. (Defined by Webster’s as “copying, imitating, with intent to deceive.”) As in the easily recognized case of counterfeiting, the goldsmith passes off his unbacked gold receipts (fake money) for those that are fully backed by gold (legitimate money). This is logically equivalent to forgery (defined as, imitating falsely, with intent to deceive), or passing bad checks.

But whatever the name, the results are clear. The dishonest goldsmith diverts sizeable amounts of real resources belonging to other people to his own use. The economic effects of such a procedure are morally indistinguishable from the highwayman’s³ case; there is a bit more openhandedness, since everyone knows him as the thief he is, while the goldsmith is widely thought to be an honest merchant.

Nor will the case change when modern banking methods are introduced, with demand deposits and checkbook money largely taking the place of bank notes. The principle is still the same: with the advent of FRB, real wealth is shifted from the non-bank public to the banking industry, exactly in the same way as in the operation of the goldsmith’s counterfeiting ring.

Any institution engaging in FRB, moreover is bankrupt as soon as it begins. For as soon as it has more obligations outstanding against it than it has assets with which to pay, it is unable to meet its debts. And once an institution is unable to pay the debts which fall due, it is in a state of *bankruptcy*, the “moratorium” and other fancy obfuscations in the New York City financial crises of 1976 notwithstanding. Again, as in the case of embezzlement, the bankruptcy may not be discovered until a run on the bank occurs,⁴ but a bank is technically in a state of bankruptcy as soon as it embarks upon a policy of fractional reserve banking.

One common objection to our FRB analysis is as follows: If a FRB system is bankrupt because it cannot pay off all its debts, then virtually *all* businesses are bankrupt, because most of them would not be able to pay off all their debts at any given moment. It is true that most business firms have heavy mortgages, that they cannot retire for years. But

any view that implies that almost our entire business community is now and always in a state of bankruptcy, must be seriously deficient.

The problem with this objection is that it misunderstands the time element. In the ordinary business case, it may be true that total liabilities often far exceed total assets on hand. Assets on hand may be virtually zero, right after a company has made a heavy investment and right before it recoups the returns. But in the usual case, not all the liabilities are *instantaneous*. Most are not. In the case of mortgages, there are payments which are not *due* for 20 to 30 years. We may then safely ignore the case where assets on hand are not sufficient to make payments that are not due for 30 years! The business is not thereby bankrupt. True, if the company cannot come up with the money in 30 years (or whenever it is due), *then* it will be bankrupt.

But the case of FRB is altogether different. Like other businesses, many of its assets are illiquid. Unlike them, however, its liabilities, at least as far as notes and demand deposits are concerned, are *instantaneous*. A demand deposit is just that: an amount of money placed with the bank which, according to the contract, the bank has agreed to pay back on *demand, forthwith, immediately*. Only in rare case are the instantaneous liabilities of an ordinary business greater than its instantaneous (liquid) assets. When this occurs, the business is truly bankrupt. But in the FRB system, instantaneous liabilities are *always* greater than instantaneous (liquid) assets. This is because the fractional reserve banking system is *defined* as one in which only a *fraction* of the demand deposits are held in reserve; the remainder is in the form of long term loans, or illiquid assets.

The same distinction holds with regard to insurance companies. Critics of our FRB analysis are often wont to point to insurance companies as examples of bankruptcy, according to our criteria, on the grounds that, if a large scale calamity occurs, the insurance industry, based on the principle of dividing risk, could not possibly pay off all the legitimate claims made against it.

Now it is certainly true that insurance is a method of pooling risks, and can only remain profitable on the assumption that a disaster does not strike *all* customers of any one company. That is why, other things equal, the larger company will be better able to pool risks. It therefore follows that *if* a nation-wide catastrophe were to strike, many, if not all of our insurance companies, would be rendered bankrupt.

But this is a far cry from allowing that they are *now* bankrupt, in the *absence* of such a calamity. The analogy fails, for banks under FRB are *presently* bankrupt, even assuming no out-of-the-ordinary circum-

stances. Just because a company *could* become bankrupt, in certain very extraordinary situations, does not mean that it is bankrupt at present.

A second objection concerns not so much a supposed flaw in the present critique of FRB, but rather a charge of inconsistency against the present author who, in the present paper attacks counterfeiting “as a fraud and a sham” while in a book,⁵ *Defending the Undefendable*, explicitly singles out the counterfeiter as “heroic.”

I plead “not guilty” to this charge of inconsistency. In the book I went out of my way to point out that I was *opposed* to counterfeiting, on moral grounds, but that the people who were commonly blamed for this activity, private, non-governmental agents, were not really counterfeiters at all. As I stated:

The justification for calling the common, private counterfeiter heroic is that there is a prior counterfeiter in action and that the money falsified by the private counterfeiter is not really legitimate money; instead, it is itself counterfeit. It is one thing to say that counterfeiting *genuine* money amounts to theft; it is quite another thing to say that counterfeiting *counterfeit* money amounts to theft.⁶

The case we are dealing with in the present paper is one of counterfeiting *genuine* money. There was nothing in *Defending the Undefendable* that would compel defense of *this* kind of activity. The goldsmith, in creating “extra” notes, for which no gold exists, and the modern banker, in lending out money in the form of demand deposits unbacked by any money, are both guilty of no more and no less than counterfeiting *genuine* money—and both are therefore guilty of theft.

Let us now consider a defense of FRB, not as presently constituted, but as it *might* be. There is a singular group of economists who concede that all FRB systems that have ever existed may have been equivalent to theft, but who nevertheless contend that *voluntary* fractional reserve banking (VFRB) is plausible, would be workable, and need not be fraudulent.

In the view of voluntary fractional reserve banking advocates, the chief evil of the present system is the cumulative statement on the face of the notes (or on the contract upon which the demand deposits are based) to the effect that there is more money on deposit than is actually the case. If there are 100,000 notes in existence, each with a face value of 10 gold ounces, then according to all the warehouse receipts

for gold outstanding, there are 1,000,000 gold ounces. But assuming that the fraction on reserve is only 20%, this is a blatant falsehood. Actually, under this type of FRB, there would only be 200,000 gold ounces in existence.

The VFRB advocates, seeing the truth of this claim, act so as to obviate it. Given the preceding set of assumptions, they advocate something like the following statement appear on each and every 10-ounce note:

By the way folks, our policy is to keep only one-fifth of an ounce of gold on hand for each of the ounce value notes that we put into circulation. Since this here is a 10-ounce note, we've got only two ounces in reserve backing it. Thus, if all you people, the holders of our notes (or demand depositors, as the case may be) come into the bank at the same time, demanding your money back, only 20% of you will get your money back. We'll pay off the people presenting the first 20% of our notes outstanding in the order that they demand their money. The rest of you suckers (depositors! a thousand pardons!) will just be out of luck. We'll have to hold a forced sale of our assets. You'll have to wait until our loans fall due. In the meantime, there will be a "moratorium" on payments. In other words, our bankruptcy will be evident.

Whatever else may be said, it must be admitted that at least this VFRB scheme cannot be called purposefully deceptive. It goes out of the way, to a degree probably never seen before, to make clear just what is involved in FRB. If the preceding statement appears in bold lettering, and not in "small (invisible) print" the claim to voluntariness is strong indeed.

The VFRB argument is also buttressed by the phenomena of "fractional reserve parking lots" which flourish on several college campuses. The patrons of such parking facilities are told, quite clearly and forcefully, that if they purchase a "permission" to park, it is a conditional one. The parking lot makes it clear that more "permissions" to park are sold than there are parking places on the lot. Therefore, if the demand is low (within the limits set by the number of spaces on the lot), the permission functions much the same as the more traditional parking permit: It "guarantees" a parking space. But if the demand on any one day exceeds the number of spaces, "first-come-first-served" is the order of the day. (Because of the risk, such "permissions" usually sell at

a discount compared to the more traditional permits.) This, contends the VFRB advocates, is truly a *voluntary* fractional reserve parking lot, not in violation of any libertarian principles prohibiting fraud and theft. Why, they ask, cannot the same principles be applied to banking?

Plausible as the argument sounds, it does not succeed. We must question the claim that the 10-ounce bank note, even with the statement clearly visible, is really a 10-ounce note (or a demand deposit for 10-ounces of gold). What right, it may be asked, do the VFRB advocates have to the claim that 10 ounces of gold are really payable, to the bearer, *on demand*. All of economic reality rebels against such a claim. By the admission of the VFRB people, there is no such guarantee. On the contrary, the VFRB people *admit* that all the notes may *not* be paid on demand (if too many people make this request).

Suppose the statement were to be altered to the following, in an attempt to get around this criticism:

Ok you guys, now hear this. This is your friendly local neighborhood banker speaking. If you turn in this piece of paper which purports to be a 10-ounce gold bank note (or warehouse receipt for gold, or demand deposit for 10 ounces of gold) you have a 1 to 5 chance of getting your money back. However, if no one claims his money before you do, (or if fewer people claim their money than we have money available), then you are guaranteed to receive your money back—for sure. Cross our hearts and hope to die.

The second statement is clearly free of the claim that there is no legitimacy to calling the relevant piece of paper a 10-ounce bank note. Moreover, it places the bank note clearly in the tradition of the “fractional reserve” parking lot, certainly a legitimate institution. But note now that the VFRB position is free of the claim, at long last, that it is in *any* way fraudulent, or misleading, it is open to another criticism: this piece of paper is a bank note no longer; rather, it is a *lottery* ticket.

What, indeed, can be the justification for calling a piece of paper (or a contract, in the case of checkbook money) a *bank note*, when it is only offering (under certain conditions) a 1 to 5 *chance* of receiving money. How is such a supposedly voluntary fractional reserve *banking* system to be distinguished from a voluntary *lottery*?⁷ It cannot be so distinguished, and therefore VFRB if it adheres scrupulously to the dictates of honesty, must of necessity reduce itself to a lottery, and not a system of banking at all.

Let us conclude by disposing of the claim that on the market, the value of a fractional reserve banking note will tend to trade at its par value multiplied by the reserve fraction. Thus, a 10-ounce gold note, with a 20% reserve behind it, will, it is claimed, tend to trade at two gold ounces; a 30-ounce gold note backed by a 40% reserve, at 12 gold ounces.

This would be equivalent, in our lottery analogy, to the claim that lottery tickets will sell at mathematically “fair” prices. In other words, a lottery with a first and only prize of 1,000,000 gold ounces will sell no more than 100,000 chances, for 10 gold ounces each. But this would mean that the lottery entrepreneur would undertake to give out *all* his income from the sale of tickets to the prize winner, leaving zero profit for himself. Such a businessman could not thrive for long.

In the banking case, the 10-ounce gold “note” need not trade at two gold ounces (assuming a 20% reserve). It might sell at far less, if people do not trust the bank, and it might be worth more, if people do not fully digest the import of the second statement printed on it.⁷

Notes

1. See Murray N. Rothbard, *Man, Economy, and State*, (New York: Van Nostrand), pp. 701-03. See also his *What Has Government Done to our Money?* (Santa Ana, Calif.: Rampart College, 1974).
2. Exhaustive research, however, fails to uncover any published critiques in this regard.
3. Lysander Spooner, *No Treason* (Larkspur, Colo.: Pine Tree Press, 1966).
4. It is presently unlawful to encourage runs on banks, or to cast aspersions on their financial probity. Presumably, the better to “protect” the public.
5. Walter Block, *Defending the Undefendable* (New York: Fleet Press, 1976), pp. 109-20.
6. *Ibid.*, p. 113.
7. Ludwig von Mises, *Human Action* (Chicago: Henry Regnery, 1949), pp. 106-16.

How is Fiat Money Possible? — or, The Devolution of Money and Credit

Hans-Hermann Hoppe

Fiat money is the term for a medium of exchange which is neither a commercial commodity, a consumer, or a producer good, nor title to any such commodity: i.e., irredeemable paper money. In contrast, *commodity* money refers to a medium of exchange which is either a commercial commodity or a title thereto.

There is no doubt that fiat money is *possible*. Its theoretical possibility was recognized long ago, and since 1971, when the last remnants of a former international gold (commodity) standard were abolished, all monies, everywhere, have in fact been nothing but irredeemable pieces of paper.

The question to be addressed in this paper is rather *how* is a fiat money possible? More specifically, can fiat money arise as the natural outcome of the interactions between self-interested individuals; or, is it possible to introduce it without violating either principles of justice or economic efficiency?

It will be argued that the answer to the latter question must be negative, and that no fiat money can ever arise “innocently” or “immaculately.” The arguments advancing this thesis will be largely constructive and systematic. However, given the fact that the thesis has frequently been disputed, along the way various prominent counterarguments will be criticized. Specifically, the arguments of the *monetarists*, especially Irving Fisher and Milton Friedman, and of some *Austrian* “free bankers,” especially Lawrence White and George Selgin, in ethical and/or economic support of either a total or a fractional fiat money will be refuted.

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The Origin of Money

Man participates in an exchange economy (instead of remaining in self-sufficient isolation) insofar as he prefers more goods over less and is capable of recognizing the higher productivity of a system of division of labor. The same narrow intelligence and self-interest is sufficient to explain the emergence of a—and ultimately only one—commodity money and a—and ultimately only one, world-wide—monetary economy.¹ Finding their markets as buyers and sellers of goods restricted to instances of double coincidence of wants (A wants what B has *and* B wants what A has), each person may still expand his own market and thus profit more fully from the advantages of extended division of labor if he is willing to accept not only directly useful goods in exchange, but also goods with a higher degree of marketability than those surrendered. For even if they have no direct use-value to an actor, the ownership of relatively more marketable goods implies by definition that such goods may in turn be more easily resold for other, directly useful goods in later exchanges, and hence that their owner has come closer to reaching an ultimate goal unattainable through direct exchange.

Motivated only by self-interest and based on the observation that directly traded goods possess different degrees of marketability, some individuals begin to demand specific goods not for their own sake but for the sake of employing them as a medium of exchange. By adding a new component to the pre-existing (barter) demand for these goods, their marketability is still further enhanced. Based on their perception of this fact, other market participants increasingly choose the same goods for their inventory of exchange media, as it is in their own interest to select such commodities as media of exchange that are *already* employed by others for the same purpose. Initially, a variety of goods may be in demand as common media of exchange. However, since a good is demanded as a medium of exchange—rather than for consumption or production purposes—in order to facilitate future purchases of directly serviceable goods (i.e., to help one buy more cheaply) and simultaneously widen one's market as a seller of directly useful goods and services (i.e., help one sell more dearly), the more widely a commodity is used as a medium of exchange, the better it will perform its function. Because each market participant naturally

¹See on the following, in particular Carl Menger, *Principles of Economics* (New York: New York University Press, 1981); idem, *Geld*, in Carl Menger, *Gesammelte Werke*, vol. 4, F. A. Hayek, ed. (Tübingen: Mohr, 1970); Ludwig von Mises, *Theory of Money and Credit* (Irvington-on-Hudson, N.Y.: Foundation for Economic Education, 1971); idem, *Human Action: A Treatise on Economics* (Chicago: Regnery, 1966).

prefers the acquisition of a more marketable and, in the end, universally marketable medium of exchange to that of a less or non-universally marketable one, "there would be an inevitable tendency for the less marketable of the series of goods used as media of exchange to be one by one rejected until at last only a single commodity remained, which was universally employed as a medium of exchange; in a word, money."²

With this, and historically with the establishment of the international gold standard in the course of the nineteenth century (until 1914), the end desired through any one market participant's demand for media of exchange is fully accomplished. With the prices of all consumer and capital goods expressed in terms of a single commodity, demand and supply can take effect on a world-wide scale, unrestricted by absences of double coincidence of wants. Because of its universal acceptability, accounting in terms of such money contains the most complete and accurate expression of any producer's opportunity costs. At the same time, with only one universal money in use—rather than several ones of limited acceptability—the market participants' expenditures (of directly serviceable goods) on holdings of only indirectly useful media of exchange are optimally economized; and with expenditures on indirectly useful goods so economized, real wealth, i.e., wealth in the form of stocks of producer and consumer goods, is optimized as well.

According to a long—Spanish-French-Austrian-American—tradition of monetary theory,³ money's originary function—arising out of the existence of uncertainty—is that of a *medium of exchange*. Money *must* emerge as a *commodity* money because something can be demanded as a medium of exchange only if it has a pre-existing barter demand (indeed, it must have been a highly marketable barter commodity), and the competition between monies *qua* media of exchange inevitably leads to a tendency of converging toward a *single* money—as the most easily resold and readily accepted commodity.

In light of this, several popular notions of monetary theory are immediately revealed as misguided or fallacious.

What about the idea of a commodity reserve currency? Can bundles (baskets) of goods or titles thereto be money?⁴ No, because

²Mises, *Theory of Money and Credit*, pp. 32–33.

³See Murray N. Rothbard, "New Light on the Prehistory of the Austrian School," in *The Foundations of Modern Austrian Economics*, E. G. Dolan, ed. (Kansas City: Sheed and Ward, 1976); Joseph T. Salerno, "Two Traditions in Modern Monetary Theory," *Journal des Economistes et des Etudes Humaines* 2, no. 2/3 (1991).

⁴On commodity reserve proposals see B. Graham, *Storage and Stability* (New York: McGraw Hill, 1937); F. D. Graham, *Social Goals and Economic Institutions* (Princeton:

bundles of different goods are by definition less easily saleable than the most easily saleable of its various components, and hence commodity baskets are uniquely *unsuited* to perform the function of a medium of exchange (and it thus is no mere accident that no historical examples for such money exist).

What about the—Friedmanite—idea of freely fluctuating “national monies” or of “optimal currency areas?”⁵ It must be regarded as absurd, except as an intermediate step in the development of an inter-national money. Strictly speaking, a monetary system with rival monies of freely fluctuating exchange rates is still a system of partial barter, riddled with the problem of requiring double coincidence of wants in order for exchanges to take place. The lasting existence of such a system is dysfunctional of the very purpose of money: of facilitating exchange (instead of making it more difficult) and of expanding one’s market (rather than restricting it). There are no more “optimal”—local, regional, national or multi-national—monies or currency areas than there are “optimal trading areas.” Instead, as long as more wealth is preferred to less and under conditions of uncertainty, just as the only “optimal” trading area is the whole world market, so the only “optimal” money is *one* money and the only “optimal” currency area the entire globe.

What about the idea, central to monetarist thought since Irving Fisher, that money is a “measure of value” and of the notion of monetary “stabilization?”⁶ It represents a tangle of confusion and falsehood. First and foremost, while there exists a motive, a purpose for actors wanting to own media of exchange, no motive, purpose or need can be discovered for wanting to possess a measure of value. Action and exchange are expressive of *preferences*: each person values what he acquires more highly than what he surrenders—*not* of identity or equivalency. No one ever needs to *measure* value. It is easily explained why actors would want to use cardinal numbers—to count—and construct measurement instruments—to measure space,

Princeton University Press, 1942); also F. A. Hayek, “A Commodity Reserve Currency,” *Economic Journal* 210 (1943); Milton Friedman, “Commodity-Reserve Currency,” *Journal of Political Economy* (1951).

⁵See Milton Friedman, “The Case for Flexible Exchange Rates” in Friedman, *Essays in Positive Economics* (Chicago: University of Chicago Press, 1953); idem, *A Program for Monetary Stability* (New York: Fordham University Press, 1959); also *Policy Implications of Trade and Currency Zones: A Symposium* (Kansas City: Federal Reserve Bank of Kansas City, 1991).

⁶See Irving Fisher, *The Purchasing Power of Money* (New York: Augustus Kelley, 1963); idem, *Stabilizing the Dollar* (New York: Macmillan, 1920); idem, *The Money Illusion* (New York: Adelphi, 1929); Milton Friedman, “A Monetary and Fiscal Framework for Economic Stability,” *American Economic Review* (1948).

weight, mass and time: In a world of quantitative determinateness, i.e., in a world of scarcity, where things can render strictly limited effects only, counting and measuring are the prerequisite for successful action. But what imaginable technical or economic need could there possibly be for a measure of *value*?

Second, setting these difficulties aside for a moment and assuming that money indeed measures value (such that the money price paid for a good represents a cardinal measure of this good's value) in the same way as a ruler measures space, another insurmountable problem results. Then the question arises "what is the value of this measure of value?" Surely it must have value just as a ruler must have value, otherwise no one would want to own either one. Yet it would obviously be absurd to answer that the value of a unit of money—one dollar—is one. One what? Such a reply would be as nonsensical as answering a question concerning the value of a yardstick by saying "one yard." The value of a cardinal measure cannot be expressed in terms of this measure itself. Rather, *its* value must be expressed in ordinal terms: It is better to have cardinal numbers and measures of length or weight than merely to have ordinal measures at one's disposal. Likewise it is better if, because of the existence of a medium of exchange, one is able to resort to cardinal numbers in one's cost-accounting, rather than having to rely solely on ordinal accounting procedures, as would be the case in a barter economy. But it is impossible to express in cardinal terms *how much* more valuable the former techniques are as compared with the latter. Only ordinal judgments are possible. It is precisely in this sense, then, that ordinal numbers—ranking, preferring—must be regarded as more fundamental than cardinal ones and value be considered an irreducibly subjective, non-quantifiable magnitude.

Moreover, if it were indeed the function of money to serve as a measure of value, one must wonder why the demand for such a thing should ever systematically exceed one per person. The demand for rulers, scales, and clocks, for instance, exceeds one per person only because of differences in location (handiness) or the possibility of their breaking or failing. Apart from this, at any given point in time and space, no one would want to hold more than one measurement instrument of homogeneous quality, because a *single* measurement instrument can render *all* possible measurement services. A second instrument of its kind would be useless.

Third, in any case, whatever the *characteristicum specificum* of money may be, money is a *good*. Yet if it is a good, then it falls under the law of marginal utility, and this law *contradicts* any notion of a stable- or constant-valued good. The law follows from the proposition

that every actor, at any given point in time, acts in accordance with his subjective preference scale and chooses to do what he expects—rightly or wrongly—to satisfy him more rather than less, and that in so doing he must invariably employ quantitatively definite—limited—units of qualitatively distinct goods as means and thus, by implication, must be capable of recognizing unit-additions and -subtractions to and from his supply of means. From this incontestably true proposition it follows (1), that an actor always prefers a larger supply of a good over a smaller one, i.e., he ranks the marginal utility of a larger sized unit of a good higher than that of a smaller sized unit of the same good; and (2), that any increment to the supply of a good by an additional unit—of any unit-size that an actor considers and distinguishes as relevant—will be ranked lower (valued less) than any same-sized unit of this good *already* in one's possession, as it can only be employed as a means for the removal of an uneasiness deemed less urgent than the least urgent one *up-to-now* satisfied by the same sized unit of this good, i.e., the marginal utility of a given-sized unit of a good decreases (increases) as the supply of such units increases (decreases). Each change in the supply of a good, then, leads to a change in this good's marginal utility. Any change in the supply of a good A, as perceived by an actor X, leads to X's *re-evaluation* of A. X attaches a *different* value-rank to A now. Hence, the search for a stable or constant-valued good is obviously illusory from the outset, on a par with wanting to square the circle, for every action involves exchange, and every exchange alters the supply of some good. It either results in a diminution of the supply of a good (as in pure consumption), or it leads to a *diminution of one and an incrementation of another* (as in production or interpersonal exchange). In either case, as supplies are changed in the course of any action, so are the values of the goods involved. To act is to purposefully *alter* the value of goods. Hence, a stable-valued good—money or anything else—must be considered a constructive or praxeological impossibility.

Finally, as regards the idea of a money—a dollar—of constant purchasing power, there is first the fundamental problem that the purchasing power of money *cannot be measured* and that the construction of price indices—any index—is scientifically arbitrary, i.e., as good or bad as any other. (What goods are to be included? What relative weight should be attached to each of them? What about the problem that individual actors value the same things differently and are concerned about different commodity baskets, or that the same individual evaluates the same basket differently at different times? What is one to do with changes in the quality of goods or with entirely

new products?).⁷ Moreover, what is so great about “stable” purchasing power anyway (however that term may be arbitrarily defined)? To be sure, it is obviously preferable to have a “stable” money rather than an “inflationary” one. Yet surely a money whose purchasing power per unit *increased*—“deflationary” money—would be preferable to a “stable” one.

What about the thesis that in the absence of any legal restrictions money—non-interest bearing cash—would be completely replaced by interest bearing securities?⁸ Such displacement is conceivable only in equilibrium, where there is no uncertainty and hence no one could gain any satisfaction from being prepared for future contingencies as these are per assumption ruled out of existence. Under the omnipresent human condition of uncertainty, however, even if all legal restrictions on free entry were removed, a demand for non-interest bearing cash—as distinct from a demand for equity or debt claims (stocks, bonds or mutual fund shares)—would necessarily remain in effect. For whatever the specific nature of these claims may be, they represent titles to *producer* goods, otherwise they *cannot* yield interest. Yet even the most easily convertible production factor must be less saleable than the most saleable one of its final products, and hence, even the most liquid security can never perform the same service of preparing its owner for future contingencies as can be provided by the most marketable *final* non-interest bearing product: money. All of this could be different only if it were assumed—as Wallace in accordance with the Chicago school’s egalitarian predispositions tacitly does—that all goods are equally marketable. Then, by definition there is no difference between the salability of cash and securities. However, then all goods must be assumed to be identical to each other, and if this were the case neither division of labor nor markets would exist.

From Commodity Money to Fiat Money: The Devolution of Money

If money must arise as a commodity money, how can it become fiat money? Via the development of money substitutes (paper titles to commodity money)—but only fraudulently and only at the price of economic inefficiencies.

⁷Mises, *Theory of Money and Credit*, pp. 187–94; idem, *Human Action*, pp. 219–23.

⁸See N. Wallace, “A Legal Restrictions Theory of the Demand for ‘Money’,” Federal Reserve Bank of Minneapolis *Quarterly Review* (1983); E. Fama, “Financial Intermediation and Price Level Control,” *Journal of Monetary Economics* (1983); for a critique see Lawrence White, “Accounting for Non-Interest-Bearing Currency,” *Journal of Money, Credit, and Banking* (1987).

Under a commodity money standard such as the gold standard until 1914, money “circulated” on the one hand in the form of standardized bars of bullion and gold coins of various denominations trading against each other at essentially fixed ratios according to their weight and fineness. On the other hand, to economize on the cost of storing (safekeeping) and transacting (clearing) money, in a development similar to that of transferable property titles—including stock and bond certificates—as means of facilitating the spatial and temporal exchange of *non*-money goods, side by side with money proper also gold certificates—property titles (claims) to specified amounts of gold deposited at specified institutions (banks)—served as a medium of exchange. This coexistence of money proper (gold) and money substitutes (claims to money) affects neither the total supply of money—for any certificate put into circulation an equivalent amount of gold is taken out of circulation (deposited)—nor the interpersonal income and wealth distribution. Yet without a doubt the coexistence of money *and* money substitutes and the possibility of holding money in either form and in variable combinations of such forms constitutes an added convenience to individual market participants. This is how intrinsically worthless pieces of paper can acquire purchasing power. If and insofar as they represent an unconditional claim to money and if and insofar as no doubt exists that they are valid and may indeed be redeemed at any time, paper tickets are bought and sold *as if* they were genuine money—they are traded against money at par. Once they have thus acquired purchasing power and are *then* deprived of their character as claims to money (by somehow suspending redeemability), they may *continue* functioning as money. As Mises writes: “Before an economic good begins to function as money it must already possess exchange-value based on some other cause than its monetary function. But money that already functions as such may remain valuable even when the original source of its exchange-value has ceased to exist.”⁹

However, would self-interested individuals *want* to deprive paper tickets of their character as titles to money? Would they *want* to suspend redeemability and adopt intrinsically worthless pieces of paper as money? Paper money champions like Milton Friedman claim this to be the case, and they typically cite a savings-motive as the reason for the substitution of fiat for commodity money: A gold standard involves social waste in requiring the mining and minting of gold. Considerable resources have to be devoted to the production

⁹Mises, *Theory of Money and Credit*, p. 111.

of money.¹⁰ With essentially costless paper money instead of gold, such waste would disappear, and resources would be freed up for the production of directly useful producer or consumer goods. It is thus a fiat money's higher economic efficiency which explains the present world's universal abandonment of commodity money! But is it so? Is the triumph of fiat money indeed the outcome of some innocuous saving? Is it even conceivable that it could be? Can self-interested individuals really *want* to save as fiat money champions assume that they do?

Somewhat closer scrutiny reveals that this is impossible, and that the institution of fiat money requires the assumption of a very different—not innocuous but sinister—motive: Assume a monetary economy with (at least) one bank and money proper (“outside money” in modern jargon) as well as money substitutes (“inside money”) in circulation. If market participants indeed wanted to save on the resource costs of a commodity money (with the ultimate goal of demonetizing gold and monetizing paper), one would expect that first—as an approximation to this goal—they would want to give up using any outside money (gold). All transactions would have to be carried out with inside money (paper), and all outside money would have to be deposited in a bank and thus taken out of circulation entirely. (Otherwise, as long as genuine money was still in circulation, those individuals making use of gold coins would demonstrate unmistakably—through their very actions—that they did *not* want to save on the associated resource costs.)

But is it possible that money substitutes can thus outcompete—and displace—genuine money as a medium of exchange? No; even many hard money theoreticians have been too quick to admit such a possibility. The reason is that money substitutes are *substitutes* and have one permanent and decisive disadvantage as compared to money proper. Paper notes (claims to money) are redeemable at par only to the extent that a deposit fee has been paid to the depositing institution. Providing safeguarding and clearing services is a costly business, and a deposit fee is the price paid for guarded money. If paper notes are presented for redemption after the date up to which safeguarding fees were paid by the original or previous depositor, the depositing institution would have to impose a redemption charge and such notes would then trade at a discount against genuine money. The disadvantage of money substitutes is that they must be

¹⁰See Friedman, “Essays in Positive Economics,” p. 210; idem, *A Program for Monetary Stability*, pp. 4–8; idem, *Capitalism and Freedom* (Chicago: University of Chicago Press, 1962), p. 40.

continuously re-deposited and re-issued in order to maintain their character as money—their salability at par—and thus that they function as money only temporarily and discontinuously. Only money proper (gold coins) is permanently suited to perform the function as a medium of exchange. Accordingly, far from inside money ever displacing outside money, the use of money substitutes should be expected to be forever severely limited—restricted essentially to the transaction of very large sums of money and the dealings between regular commercial traders—while the overwhelming bulk of the population would employ money proper for most of their purchases or sales, thus demonstrating their preference for *not* wanting to save in the way fancied by Friedman.¹¹

Moreover, even if one assumed for the sake of argument that only inside money is in circulation while all genuine money is stored in a bank, the difficulties for fiat money proponents do not end here. To be sure, in their view matters appear simple enough: All commodity money sits idle in the bank. Wouldn't it be more efficient if all of this idle gold were used instead for purposes of consumption or production—for dentistry or jewelry—while the function of a medium of exchange were assumed by a less expensive—indeed, practically costless—fiat money? Not at all.

First, the envisioned demonetization of gold certainly cannot mean that a bank thereby assumes ownership of the entire money stock, while the public gets to keep the notes. No one except the bankowner would agree to that! No one would want *such* savings. In fact, this would not be savings at all but an expropriation of the public by and to the sole advantage of the bank. No one could possibly *want* to be expropriated by somebody else. (Yet the expropriation of privately owned commodity money through governments and their central banks is the only method by which commodity money has ever

¹¹ Indeed, historically this has been the case: Traditionally, notes have always been widely distrusted, and their acceptability—as compared to that of genuine money such as gold or silver coins—was severely limited.

In order to increase the popularity of money substitutes two complementary measures were actually required: First, the note-issuing depositing institution had to overvalue deposit notes against genuine money by either charging no depositing fee or by even paying interest on deposits. Secondly, because the guarding of money is actually *not* costless and deposited money *cannot* possibly generate an interest return, the bank, in order to cover its otherwise unavoidable losses, had to engage in fractional reserve banking, i.e., it had to issue and bring into circulation new, additional deposit tickets that, while physically indistinguishable from any other notes, were actually not covered by genuine money.

On the ethical and economic status of the practice of fractional-reserve banking see the section, "From Deposit and Loan Banking to Fractional-Reserve Banking: The Devolution of Credit," below.

been replaced by fiat money.) Instead, each depositor would want to retain ownership of his deposits and get his gold back.

Then, however, an insurmountable problem arises: Regardless who—the bank or the public—now owns the notes, they represent nothing but irredeemable paper. Formerly, the cost associated with the production of such paper was by no means only that of printing paper tickets, but more importantly that of attracting gold depositors through the provision of safeguarding and clearing services. Now, with irredeemable paper, there is nothing worth guarding anymore. The cost of money production falls close to zero, to mere printing costs. Previously, with paper representing claims to gold, the notes had acquired purchasing power. But how can the bank or the public sell them, i.e., get anyone to accept them, now? Would they be bought and sold for non-money goods at the formerly established exchange ratios? Obviously not. At least not as long as no legal barriers to entry into the note-production business existed; for under competitive conditions, of free entry, if the (non-money) price paid for paper notes exceeded their production costs, the production of notes would immediately be expanded to the point at which the price of money approached its cost of production. The result would be hyperinflation. No one would accept paper money anymore, and a flight into *real values* would set in. The monetary economy would break down completely and society would revert back to a primitive, highly inefficient barter economy. Out of barter then, once again a new (most likely a gold) commodity money would emerge (and the note producers once again, so as to gain acceptability for their notes, would begin backing them by this money). What a way of achieving savings!

If one is to succeed in replacing commodity money by fiat money, then, an additional requirement must be fulfilled: Free entry into the note-production business must be restricted, and a money *monopoly* must be established. A single paper money producer is also capable of causing hyperinflation and a monetary breakdown. However, insofar as he is legally shielded from competition, a monopolist can safely and knowingly restrict the production of his notes and thus assure that they retain their purchasing power. He then presumably would assume the task of *redeeming* old notes at par for new ones, as well as that of again providing safeguarding and clearing services in accepting note deposits in exchange for his issuance of substitutes of notes—demand deposit accounts and checkbook money—against a depositing fee.

Regarding this scenario, several related questions arise. Formerly, with commodity money every person was permitted to enter the gold mining and coining business freely—in accordance with the

assumption of self-interested, wealth-maximizing actors. In contrast, in order for Friedman's "fiat money dividend" to come into existence, competition in the field of money production would have to be outlawed and a monopoly erected. Yet how can the existence of a legal monopoly be reconciled with the assumption of self-interest? Is it conceivable that self-interested actors could agree on establishing a fiat money monopoly in the same way as they can naturally agree on participating in the division of labor and on using one and the same commodity as a medium of exchange? If not, does this not demonstrate that the cost associated with such a monopoly must be considered higher than all attending resource cost savings?

To raise these questions is to answer them. Monopoly and the pursuit of self-interest are incompatible. To be sure, a motive why someone might want to become the money monopolist exists. After all, by not having to store, guard and redeem a precious commodity, the production costs are dramatically reduced and the monopolist could thus reap an extra profit; by being legally protected from all future competition, this monopoly profit would immediately become "capitalized," i.e., reflected permanently in an upward valuation of his assets, and on top of his inflated asset values he then would be guaranteed a normal rate of (interest) return. Yet to say that such an arrangement would be advantageous to the monopolist is not to say that it would be advantageous to anybody else, and hence that it could arise naturally. In fact, there is no motive for anyone wanting *anyone but himself* to be this monopolist, and accordingly no agreement on the selection of any particular monopolist would be possible. The position of a monopolist can only be arrogated—enforced against the will of all excluded non-monopolists. By definition, a monopoly creates a distinction between two classes of individuals of different legal quality: between those—privileged—individuals who are permitted to produce money, and those—subordinate—ones who, to the exclusive advantage of the former, are prohibited from doing the same. Such an institution *cannot* be supported in the same voluntary way as the institutions of the division of labor and a commodity money. It is *not*, as they are, the "natural" result of mutually advantageous interactions, but that of an unilaterally advantageous act of expropriation (abrogation). Accordingly, instead of relying for its continued existence on voluntary support and cooperation, a monopoly requires the threat of physical violence.¹²

¹²It might be argued that a monopoly agreement would be possible (conceivable), if the monopolistic bank of issue were owned by—and its profits distributed to—everyone. Wouldn't everyone, then, not just the monopolist, profit from the savings of substituting paper for gold?

Moreover, the incompatibility of self-interest and monopoly does not end once the monopoly has been established but continues as long as the monopoly remains in operation. It cannot but operate inefficiently and at the expense of the excluded non-monopolists. First, under a regime of free competition (free entry), every single producer is under constant pressure to produce whatever he produces at minimum costs, for if he does *not* do so, he invites the risk of being outcompeted by new entrants who produce the product in question at lower costs. In contrast, a monopolist, shielded from competition, is under no such pressure. In fact, since the cost of money production includes the monopolist's own salary as well as all of his non-monetary rewards, a monopolist's "natural" interest is to *raise* his costs. Hence, it should be expected that the cost of a monopolistically provided paper money would very soon, if not from the very outset, *exceed* those associated with a competitively provided commodity money.

Furthermore, it can be predicted that the price of monopolistically provided paper money will steadily increase, i.e., the purchasing power per unit money, and hence its quality will continuously fall. Protected from new entrants, every monopolist is always tempted to raise price and lower quality. Yet this is particularly true of a money monopolist. While other monopolists must consider the possibility that price increases (or quality decreases) due to an elastic demand for their product may actually lead to reduced revenues, a

In fact, such an agreement is illusory. Joint ownership of the monopoly bank would imply that tradeable stock certificates must be issued and distributed. But who should get how much stock? Bank clients, according to their deposit size? Yet all private holders of notes help save on gold and would want to be included among the bank owners according to the size of their note holdings. And what about the owners and sellers of non-money goods? In showing themselves willing to accept paper instead of gold, they, too, play their part in the resource cost savings. But how in the world is one to determine how many shares to award *them*, when their contribution consists, as it does, of various quantities of heterogeneous consumer and producer goods? Here, at the very latest, it would become impossible to reach agreement.

Moreover, why would any new market participant—any later deposit, note and/or non-money good owner *not* initially endowed with bank stock—want to consent to and support this arrangement? Why should he *pay* for banking stock, while it was distributed to the initial wealth owners free of charge, even though he is now involved in resource cost savings just as much as they were then? Such an arrangement would involve a systematic redistribution of income and wealth in favor of all initial wealth owners and at the expense of all later ones. Yet if new, additional bank stock were issued for each new deposit, note or non-money good owner, such stock would be worthless from the outset and any bank offering it would be a non-starter.

In addition, as will be explained below, regardless of how the ownership problem is resolved, the very operation of the bank will—indeed *must*—have effects on—is not neutral to—the interpersonal income and wealth distribution.

money monopolist can rest assured that the demand for his particular product—the common medium of exchange—will be highly inelastic. Indeed, short of a hyperinflation, when the demand for money disappears entirely, a money monopolist is practically always in a position in which he may assume that his revenue from the sale of money will increase even as he raises the price of money (reduces its purchasing power). Equipped with the exclusive right to produce money and under the assumption of self-interest, the monopoly bank should be expected to engage in a steady increase of the money supply, for while an increased supply of paper money does not add anything to social wealth—the amount of directly useful consumer and producer goods in existence—but merely causes inflation (lowers the purchasing power of money), with each additional note brought into circulation the monopolist can increase *his* real income (at the expense of lowering that of the non-monopolistic public). He can print notes at practically zero cost and then turn around and purchase *real* assets (consumer or producer goods) or use them for the repayment of *real* debts. The real wealth of the non-bank public will be reduced—they own less goods and more money of lower purchasing power. However, the monopolist's real wealth will increase—he owns more non-money goods (and he always has as much money as he wants). Who, in this situation, except angels, would *not* engage in a steady expansion of the money supply and hence in a continuous depreciation of the currency?

It may be instructive to contrast the theory of fiat money as outlined above to the views of Milton Friedman, as the outstanding modern champion of fiat money.

While the younger Friedman paid no systematic attention to the question of the origin of money, the older Friedman recognizes that, as a matter of historical fact, all monies originated as commodity monies (and all money substitutes as warehouse claims to commodity money), and he is—justly—skeptical of the older Friedrich A. Hayek's proposal of competitively issued fiat currencies.¹³ However, misled by his positivist methodology, Friedman fails to grasp that money (and money substitutes) *cannot* originate in any other way, and accordingly, that Hayek's proposal *must* fail.

In contrast to the views developed here, throughout his entire work Friedman maintains that a commodity money in turn would be “naturally” replaced by a—more efficient, resource cost saving—fiat

¹³See Milton Friedman and Anna Schwartz, “Has Government Any Role in Money?” *Journal of Monetary Economics* (1986); for Hayek's proposal see his *Denationalization of Money* (London: Institute of Economic Affairs, 1976).

money regime. Amazingly, however, he offers no argumentative support for this thesis, evades all theoretical problems, and whatever argument or empirical observation he does offer *contradicts* his very claim. There is, first off, no indication that Friedman is aware of the fundamental limitations of replacing outside money by inside money. Yet if outside money cannot disappear from circulation, how, except through an act of expropriation, can the link between paper and a money commodity be severed? The continued use of outside money in circulation demonstrates that it is *not* regarded as an inferior money; and the fact that expropriation is needed for the decommodification of money would demonstrate that fiat money is *not* a natural phenomenon!

Interestingly, after evading the problem of explaining how the suspension of redeemability can possibly be considered natural or efficient, Friedman explicitly recognizes—quite correctly—that fiat money cannot, for the reasons given above, be provided competitively but requires a monopoly. From there he proceeds to assert that “the production of fiat currency is, as it were, a natural monopoly.”¹⁴ However, from the fact that fiat money requires a monopoly, it does not follow that there is anything “natural” about such a monopoly, and Friedman provides no argument whatsoever as to how any monopoly can possibly be considered the natural outcome of the interactions of self-interested individuals. Moreover, the younger Friedman in particular appears to be almost completely ignorant of classical political economy and its anti-monopolistic arguments: the axiom that if you give someone a privilege he will make use of it, and hence the conclusion that every monopolistic producer will be inefficient (in terms of costs as well as of price and quality). In light of these arguments it has to be regarded as breathtakingly naive on Friedman’s part first to advocate the establishment of a governmental money monopoly, and then to expect this monopolist *not* to use its power, but to operate at the lowest possible costs and to inflate the money supply only gently (at a rate of 3–5% per year). This would assume that, along with becoming a monopolist, a fundamental transformation in the self-interested nature of mankind would take place.

It is not surprising that the older Friedman, having had extensive experience with his own ideal of a world of pure fiat currencies as it came into existence after 1971, and looking back on his own central—resource cost savings—argument for a monopolistically provided fiat

¹⁴See Friedman, *Essays in Positive Economics*, p. 216; also Friedman and Schwartz, “Has Government Any Role in Money?”

money of nearly four decades earlier, cannot but acknowledge that his predictions turned out patently false.¹⁵ Since abolishing the last remnants of the gold commodity money standard, he realizes, inflationary tendencies have dramatically increased on a world-wide scale; the predictability of future price movements has sharply decreased; the market for long-term bonds (such as consols) has been largely wiped out; the number of investment and “hard money” advisors and the resources bound up in such businesses have drastically increased; money market funds and currency futures markets have developed and absorbed significant amounts of real resources which otherwise—without the increased inflation and unpredictability—would not have come into existence at all or at least would never have assumed the same importance that they now have; and finally, it appears that even the direct resource costs devoted to the production of gold accumulated in private hoards as a hedge against inflation have increased.¹⁶ But what conclusion does Friedman draw from this empirical evidence? In accordance with his own positivist methodology according to which science is prediction and false predictions falsify one’s theory, one should expect that Friedman would finally discard his theory as hopelessly wrong and advocate a return to commodity money. Not so. Rather, in a remarkable display of continued ignorance (or arrogance), he emphatically concludes that none of this evidence should be interpreted as “a plea for a return to a gold standard. . . . On the contrary, I regard a return to a gold standard as neither desirable nor feasible.”¹⁷ Now as then he holds onto the view that the appeal of the gold standard is merely “non-rational, emotional,” and that only a fiat money is “technically efficient.”¹⁸ According to Friedman, what needs to be done to overcome the obvious shortcomings of the current fiat money regime is find “some anchor to provide long-term price predictability, some substitute for convertibility into a commodity, or, alternatively, some device that would make predictability unnecessary. Many possible anchors and devices have been suggested, from monetary growth rules to tabular standards to the separation of the medium of exchange from

¹⁵See Milton Friedman, “The Resource Cost of Irredeemable Paper Money,” *Journal of Political Economy* (1986).

¹⁶Monetarists had predicted that, as the result of the demonetization of gold and the transition to a pure fiat money system, the price of gold would *fall*—from the then official rate of \$35 per ounce to an estimated non-monetary value of gold of around \$6. In fact, the price of gold *rose*. At one point it reached \$850 per ounce, and for most of the time it has lingered between \$300 and \$400. As of this writing the price is \$375.

¹⁷Friedman, “The Resource Cost of Irredeemable Paper Money,” p. 646.

¹⁸Friedman, *Essays in Positive Economics*, p. 250.

the unit of account. As yet, no consensus has been reached among them."¹⁹

From Deposit and Loan Banking to Fractional-Reserve Banking: The Devolution of Credit

Banks perform two strictly separate tasks, only one of which has been considered so far.²⁰ On the one hand, they serve as depositing institutions, offering safekeeping and clearing services. They accept deposits of (commodity) money and issue claims to money (warehouse receipts; money substitutes) to their depositors, redeemable at par and on demand. For every claim to money issued by them they hold an equivalent amount of genuine money on hand, ready for redemption (100 percent reserve banking). No interest is paid on deposits. Rather, depositors pay a fee to the bank for providing safekeeping and

¹⁹Friedman, "The Resource Cost of Irredeemable Paper Money," p. 646; also idem, *Money Mischief: Episodes in Monetary History* (New York: Harcourt Brace Jovanovich, 1992), chap. 10.

Among the suggestions for an alternative fiat money "anchor" recently considered by Friedman, the "frozen monetary base rule" deserves a brief comment (see Friedman, "Monetary Policy for the 1980s," in *To Promote Prosperity*, J. H. Moore, ed. [Stanford: Hoover Institution, 1984]). In one respect this rule represents an advance over his earlier 3 to 5 percent monetary growth rule. His advocacy of the latter rule was based essentially on the erroneous—proto-Keynesian—notion that money constitutes part of social capital, such that an economy cannot grow by 3 to 5 percent unless it is accommodated to do so by a proportional increase in the money supply. In contrast, the frozen monetary base rule indicates a recognition of the old—Humean—insight that any supply of money is equally optimal or, in Friedman's own words, that money's "usefulness to the community as a whole does not depend on how much money there is" [Friedman, *Money Mischief*, p. 28]. Yet otherwise the proposal represents no advance at all. For how in the world can a monopolist be expected to follow a frozen monetary base rule any more than a less stringent 3 to 5 percent growth rule?

Moreover, even if this problem were solved miraculously, this would still not alter the monopoly's character as an instrument of unilateral expropriation and income and wealth redistribution. For the monopolist, apart from offering depositing and clearing services (for which his customers would pay him a fee), would also have to perform the function, to customers and non-customers alike, of replacing old, worn-out notes—one-to-one and free of charge—with new, identical ones (otherwise, who would want to replace a permanent commodity money by a perishable fiat money?). Yet while the costs associated with this task may be low, they are definitely not zero. Accordingly, in order to avoid losses and recoup his expenses, the monopolist cannot but increase the monetary base—and hence one would essentially be back at the older monetary growth rule.

²⁰On the following see in particular Murray N. Rothbard, *The Mystery of Banking* (New York: Richardson and Snyder, 1983); idem, *The Case for A 100 Percent Gold Dollar* (Auburn, Ala.: Ludwig von Mises Institute, 1991); Mises, *Theory of Money and Credit*; idem, *Human Action*; also Walter Block, "Fractional Reserve Banking: An Interdisciplinary Perspective," in *Man, Economy, and Liberty: Essays in Honor of Murray N. Rothbard*, Walter Block and Llewellyn H. Rockwell, Jr., eds. (Auburn, Ala.: Ludwig von Mises Institute, 1988); J. Koch, *Fractional Reserve Banking: A Practical Critique* (Master's thesis, University of Nevada, Las Vegas, 1992).

clearing services. Under conditions of free competition—free entry into the banking industry—the deposit fee, which constitutes a bank's revenue and possible source of profit, tends to be a minimum fee; and the profits—or rather. The interest returns—earned in banking tend to be the same as in any other, non-banking industry.

On the other hand, originally entirely separate institutionally from deposit institutions, banks also serve as intermediaries between savers and investors—as loan banks. In this function they first offer and enter into time-contracts with savers. Savers loan money to the bank for a specified—shorter or longer—period of time in exchange for the banks' contractual obligation of future repayment plus some additional interest return. From the point of view of savers, they exchange present money for a promise of future money: the interest return constituting their reward for performing the function of waiting. Having thus acquired temporary ownership of savings from savers, the bank then reloans the same money to investors (including itself) in exchange for the latter's obligation of future repayment and interest. The interest differential—the difference between the interest paid to savers and that charged to borrowers—represents the price for intermediating between savers and investors and constitutes the loan bank's income. As for deposit banking and deposit fees, under competitive conditions the costs of intermediation also tend to be minimum costs, and the profits from loan banking likewise tend to be the same as those that can be earned elsewhere.

Neither deposit banking nor loan banking as characterized here involve an increase in the money supply or a unilateral income or wealth redistribution. For every newly issued deposit note an equivalent amount of money is taken out of circulation (only the *form* of money changes, not its quantity), and in the course of loan banking the same sum of money simply changes hands repeatedly. All exchanges—between depositors and depositing institution as well as between savers, the intermediating bank and investors—are mutually advantageous.

In contrast, fractional reserve banking involves a deliberate confusion between the deposit and the loan function. It implies an increase in the money supply, and it leads to a unilateral income redistribution in the bank's favor as well as to economic inefficiencies in the form of boom-bust business cycles.

The confusion of both banking functions comes to light in the fact that under fractional reserve banking, either depositors are being paid interest (rather than having to pay a fee), and/or savers are granted the right of instant withdrawal (rather than having to wait

with their request for redemption until a specified future date). Technically, the possibility of a bank's engaging in such practices arises out of the fact that the holders of demand deposits (claims to money redeemable on demand, instantly, at par) typically do *not* exercise their right simultaneously, such that all of them approach the bank with the request for redemption at the same time. Accordingly, a deposit bank will typically hold an amount of reserves (of money proper) in excess of actual daily withdrawals. It becomes thus feasible for the bank to loan these "excess" reserves to borrowers, thus earning the bank an interest return (which the bank then may partially pass on to its depositors in the form of interest paying deposit accounts).

Proponents of fractional reserve banking usually claim that this practice of holding less than 100 percent reserves represents merely an innocuous money "economizing," and they are fond of pointing out that not only the bank, but depositors (receiving interest) and savers (receiving instant withdrawal rights) profit from the practice as well. In fact, fractional reserve banking suffers from two interrelated fatal flaws and is anything but innocuous and all-around beneficial. First off, it should be noted that anything less than 100 percent reserve deposit banking involves what one might call a legal impossibility. For in employing its excess reserves for the granting of credit, the bank actually transfers temporary ownership of them to some borrower, while the depositors, entitled as they are to instant redemption, retain their ownership over the same funds. But it is impossible that for some time depositor *and* borrower are entitled to exclusive control over the same resources. Two individuals *cannot* be the exclusive owner of one and the same thing at the same time. Accordingly, any bank pretending otherwise—in assuming demand liabilities in excess of actual reserves—must be considered as acting fraudulently. Its contractual obligations *cannot* be fulfilled. From the outset, the bank must be regarded as inherently bankrupt—as revealed by the fact that it could not, contrary to its own presumption, withstand a possible bank run.

Second, in lending its excess reserves to borrowers, the bank increases the money supply, regardless whether the borrowers receive these reserves in the form of money proper or in that of demand deposits (checking accounts). If the loan takes the form of genuine money, then the amount of money proper in circulation is increased without withdrawing an equivalent amount of money substitutes from circulation; and if it takes the form of a checking account, then the amount of money substitutes is increased without taking a corresponding amount of genuine money out of circulation. In either

case, there will be more money in existence now than before, leading to a reduction in the purchasing power of money (inflation) and, in its course, to a systematic redistribution of real income in favor of the bank and its borrower clients and at the expense of the non-bank public and all other bank clients. The bank receives additional interest income while it makes no additional contribution whatsoever to the real wealth of the non-bank public (as would be the case if the interest return were the result of reduced bank spending, i.e., savings); and the borrowers acquire real, non-monetary assets with their funds, thereby reducing the real wealth of the rest of the public by the same amount.

Moreover, insofar as the bank does not simply spend the excess reserves on its own consumption but instead loans them out against interest charges, invariably a business cycle is set in motion.²¹ The quantity of credit offered is larger than before. As a consequence, the price of credit—the interest charged for loans—will fall below what it otherwise would have been. At a lower price, more credit is taken. Since money cannot breed more money, the borrowers, in order to be able to earn an interest return—and a pure profit on top of it—will have to convert their borrowed funds into investments, i.e., they will have to purchase or rent factors of production—land, labor, and possibly capital goods (produced factors of production)—capable of producing a future output of goods whose value (price) exceeds that of the input. Accordingly, with an expanded volume of credit, more presently available resources will be bound up in the production of *future* goods (instead of being used for present consumption) than otherwise would have been; and in order to complete all investment projects now under way, more time will be needed than that required to complete only those that would have been begun without the credit expansion. All the future goods which would have been created without the expansion plus those that are newly added on account of the credit expansion must be produced.

However, in distinct contrast to the situation where the interest rate falls due to a fall in the rate of time preference, i.e., the degree to which present goods are preferred over future goods, and hence where the public has in fact saved more so as to make a larger fund of present goods available to investors in exchange for their promise of a return of future goods, no such change in time preference and

²¹On the theory of the business cycle see in particular Ludwig von Mises, *Geldwertstabilisierung und Konjunkturpolitik* (Jena: Gustav Fischer, 1928); idem, *Human Action*, chap. 20; F. A. Hayek, *Prices and Production* (London: Routledge & Kegan Paul, 1931); Murray N. Rothbard, *America's Great Depression* (Kansas City: Sheed & Ward, 1975).

savings has taken place in the case under consideration. The public has *not* saved more, and accordingly, the additional amount of credit granted by the bank does not represent *commodity credit* (credit covered by non-money goods which the public has abstained from consuming), but it is *fiduciary* or *circulation credit* (credit that has been literally created out of thin air—without any corresponding sacrifice, in the form of non-consumed non-money goods, on the part of the creditor).²² Had the additional credit been commodity credit, an expanded volume of investment activities would have been warranted. There would have been a sufficiently large supply of present goods that could be devoted to the production of future goods such that all—the old as well as the newly begun—investment projects could be successfully completed and a higher level of future consumption attained. If the credit expansion is due to the granting of circulation credit, however, the ensuing volume of investment must actually prove over-ambitious. Misled by a lower interest rate, investors act *as if* savings had increased. They withdraw more of the presently available resources for investment projects, to be converted into future capital goods, than is warranted in light of actual savings. Consequently, capital goods prices will increase initially relative to consumer goods prices, but once the public's underlying time preference rate begins to reassert itself, a systematic shortage of consumer goods will arise. Accordingly, the interest rate will adjust upward, and it is now consumer goods prices which rise relative to capital goods prices, requiring the liquidation of part of the investment as unsustainable malinvestment. The earlier boom will turn bust, reducing the future standard of living below the level that otherwise could have been reached.

Among recent proponents of fractional reserve banking the cases of Lawrence White and George Selgin²³ deserve a few critical comments, if for no other reason than that both are critics of Friedmanite monetarism and they hark back, instead, to the tradition of Austrian and in particular Misesian monetary theory.²⁴ Their monetary ideal is a universal commodity money such as an international gold

²²On the fundamental distinction between commodity credit and circulation credit, see Mises, *Theory of Money and Credit*, pp. 263 ff.

²³See Lawrence White, *Competition and Currency* (New York: New York University Press, 1989); George Selgin, *The Theory of Free Banking* (Totowa, N.J.: Rowman & Littlefield, 1988).

²⁴For a critique of White and Selgin as misinterpreting the fundamental thrust of Mises's theory of money and banking see Joseph Salerno, "The Concept of Coordination in Austrian Macroeconomics," in *Austrian Economics: Perspectives on the Past and Prospects for the Future*, Richard Ebeling, ed. (Hillsdale, Mich.: Hillsdale College Press, 1991); idem, "Mises and Hayek Dehomogenized," *Review of Austrian Economics* 6, no. 2 (1993): 113–46.

standard and, based on this, a system of competitive banking which, they claim, would—and should be permitted to do so for reasons of economic efficiency as well as justice—engage in fractional reserve banking and the granting of fiduciary credit.

As to the question of justice, White and Selgin offer but one argument destined to show the allegedly non-fraudulent character of fractional reserves: that outlawing such a practice would involve a violation of the principle of freedom of contract by preventing “banks and their customers from making whatever sorts of contractual arrangements are mutually agreeable.”²⁵ Yet this is surely a silly argument. First off, as a matter of historical fact fractional reserve banks never informed their depositors that some or all of their deposits would actually be loaned out and hence could not possibly be ready for redemption at any time. (Even if the bank were to pay interest on deposit accounts, and hence it *should* have been clear that the bank *must* loan out deposits, this does not imply that any of the depositors actually understand this fact. Indeed, it is safe to say that few if any do, even among those who are not economic illiterates.) Nor did fractional reserve banks inform their borrowers that some or all of the credit granted to them had been created out of thin air and was subject to being recalled at any time. How, then, can their practice be called anything but fraud and embezzlement!

Second, and more decisive, to believe that fractional reserve banking should be regarded as falling under and protected by the principle of freedom of contract involves a complete misunderstanding of the very meaning of this principle. Freedom of contract does not imply that *every* mutually advantageous contract should be permitted. Clearly, if A and B contractually agree to rob C, this would *not* be in accordance with the principle. Freedom of contract means instead that A and B should be allowed to make any contract whatsoever *regarding their own properties*, yet fractional reserve banking involves the making of contracts regarding the property of third parties. Whenever the bank loans its “excess” reserves to a borrower, such a bilateral contract affects the property of third parties in a threefold way. First, by thereby increasing the money supply, the purchasing power of all other money owners is reduced; second, all depositors are harmed because the likelihood of their successfully recovering their own possessions is lowered; and third, all other borrowers—borrowers of commodity credit—are harmed because the

²⁵White, *Competition and Currency*, p. 156, also pp. 55–56; George Selgin, “Short-Changed in Chile: The Truth about the Free-Banking Episode,” *Austrian Economics Newsletter* (Winter/Spring, 1990): 5.

injection of fiduciary credit impairs the safety of the entire credit structure and increases the risk of a business failure for every investor of commodity credit.

In order to overcome these objections to the claim that fractional reserve banking accords with the principle of freedom of contract, White and Selgin then, as their last line of defense, withdraw to the position that banks may attach an “option clause” to their notes, informing depositors that the bank may at any time suspend or defer redemption, and letting borrowers know that their loans may be instantly recalled.²⁶ While such a practice would indeed dispose of the charge of fraud, it is subject to another fundamental criticism, for such notes would no longer be *money* but a peculiar form of *lottery tickets*.²⁷ It is the function of money to serve as the most easily resalable and most widely acceptable good, so as to prepare its owner for instant purchases of directly or indirectly serviceable consumer or producer goods at not yet known future dates; hence, whatever may serve as money, so as to be instantly resalable at any future point in time, it must be something that bestows an *absolute* and *unconditional* property right on its owner. In sharp contrast, the owner of a note to which an option clause is attached does *not* possess an unconditional property title. Rather, similar to the holder of a “fractional reserve parking ticket” (where more tickets are sold than there are parking places on hand, and lots are allocated according to a “first-come-first-served” rule), he is merely entitled to participate in the drawing of certain prizes, consisting of ownership- or time-rental services to specified goods according to specified rules. But as drawing rights—instead of unconditional ownership titles—they only possess *temporally conditional* value, i.e., *until* the drawings, and become worthless as soon as the prizes have been allocated to the ticket holders; thus, they would be uniquely *unsuited* to serve as a medium of exchange.

As regards the second contention: that fractional reserve banking is economically efficient, it is noteworthy to point out that White, although he is undoubtably familiar with the Austrian-Misesian claim that *any* injection of fiduciary credit must result in a boom-bust cycle, nowhere even mentions the problem of business cycles. Only Selgin addresses the problem. In his attempt to show that fractional reserve banking does *not* cause business cycles, however, Selgin then falls headlong into the fundamental Keynesian error of confusing the

²⁶White, *Currency and Competition*, p. 157; Selgin, *The Theory of Free Banking*, p. 137.

²⁷See Block, “Fractional Reserve Banking: An Interdisciplinary Perspective,” p. 30.

demand for money (determined by the utility of money) and savings (determined by time preference).²⁸

According to Selgin, "to hold inside money is to engage in voluntary saving"; and accordingly, "an increase in the demand for money warrants an increase in bank loans and investments." For, "whenever a bank expands its liabilities in the process of making new loans and investments, it is the holders of the liabilities who are the ultimate lenders of credit, and what they lend are the real resources they could acquire if, instead of holding money, they spent it."²⁹ And based on this view of the holding of money as representing saving and an increased demand for money as being the same thing as increased saving, then, Selgin goes on to criticize Mises's claim that *any* issuance of fiduciary media, in lowering the interest rate below its "natural" level, must cause a business cycle as "confused." "No ill consequences result from the issue of fiduciary media in response to a greater demand for balances of inside money."³⁰

Yet the confusion is all Selgin's. First off, it is plainly false to say that the holding of money, i.e., the act of not spending it, is equivalent to saving. One might as well say—and this would be equally wrong—that the not-spending of money is equivalent to *not* saving. In fact, saving is not-consuming, and the demand for money has nothing to do with saving *or* not-saving. The demand for money is the unwillingness to buy or rent non-money goods—and these include consumer goods (present goods) *and* capital goods (future goods). Not-spending money is to purchase *neither* consumer goods *nor* investment goods. Contrary to Selgin, then, matters are as follows: Individuals may employ their monetary assets in one of three ways. They can spend them on consumer goods; they can spend them on investment; or they can keep them in the form of cash. There are no other alternatives. While a person must at all times make decisions regarding three margins at once, invariably the outcome is determined by two distinct and praxeologically unrelated factors. The consumption/investment proportion, i.e., the decision of how much of one's money to spend on consumption and how much on investment, is determined by a person's time preference, i.e., the degree to which he prefers present consumption over future consumption. On the other hand, the source of his demand for cash is the utility attached to money, i.e., the

²⁸For a critique of this error see Rothbard, *America's Great Depression*, pp. 39–43; Hans-Hermann Hoppe, "Theory of Employment, Money, Interest, and the Capitalist Process: The Misesian Case Against Keynes," in *The Economics and Ethics of Private Property*, Hoppe, ed. (Boston: Kluwer, 1993), pp. 119–20, 137–38.

²⁹Selgin, *The Theory of Free Banking*, p. 54–55.

³⁰*Ibid.*, pp. 61–62.

personal satisfaction derived from money in allowing him immediate purchases of directly or indirectly serviceable consumer or producer goods at uncertain future dates.

Accordingly, if the demand for money increases while the social stock of money is given, this additional demand can only be satisfied by bidding down the money prices of non-money goods. The purchasing power of money will increase, the *real* value of individual cash balances will be raised, and at a higher purchasing power per unit money, the demand for and the supply of money will once again be equilibrated. The relative price of money versus non-money will have changed. But *unless* time preference is assumed to have changed at the same time, *real* consumption and *real* investment will remain the same as before: the additional money demand is satisfied by reducing nominal consumption *and* investment spending in accordance with the same pre-existing consumption/investment proportion, driving the money prices of both consumer as well as producer goods down and leaving real consumption and investment at precisely their old levels. If time preference is assumed to change concomitantly with an increased demand for money, however, then everything is possible. Indeed, if spending were reduced exclusively on investment goods, an increased demand for money could even go hand in hand with an increase in the rate of interest and reduced saving and investment. Yet this, or the equally possible opposite outcome, would not be due to a change in the demand for money but exclusively to a change (a rise, or a fall) in the time preference schedule. In any case, if the banking system were to follow Selgin's advice and *accommodate* an increased demand for cash by issuing fiduciary credit, the social rate of time preference would be falsified, excessive investment would result, and a boom-bust cycle would be set in motion, rendering the practice of fractional reserve banking fraudulent *as well as* economically inefficient.

White's and Selgin's proposal of a commodity money based system of competitive fractional reserve banking—of partial fiat money—is neither just (and hence the term “free banking” is inappropriate), nor does it produce economic stability. It is no fundamental improvement as compared to the monetarist reality of monopolistically issued pure fiat currencies. Indeed, in one respect Friedman's pure fiat money proposal contains a more realistic and correct analysis than White's and Selgin's because Friedman recognizes “what used to be called ‘the inherent instability’ of fractional reserve banking,” and he understands that this inherent instability of competitive fractional reserve banking will sooner or later collapse in a “liquidity crisis” and

then lead to his favored regime—a governmentally provided pure fiat currency—anyway.³¹

Only a system of universal commodity money (gold), competitive banks, *and* 100 percent reserve deposit banking with a strict functional separation of loan and deposit banking is in accordance with justice, can assure economic stability and represents a genuine answer to the current monetarist fiasco.

³¹See Friedman and Schwartz, "Has Government Any Role in Money?"

A Critical Analysis of Central Banks and Fractional-Reserve Free Banking from the Austrian School Perspective

Jesús Huerta de Soto

The theory of money, bank credit, and financial markets constitutes the most important theoretical challenge for economic science on the threshold of the twenty-first century. In fact, it is no exaggeration to say that, now that the “theoretical gap” represented by the analysis of socialism has been covered, perhaps the least known and, moreover, most significant field is the monetary one. As Friedrich A. Hayek has rightly stated,¹ methodological errors, lack of theoretical knowledge and, as a result thereof, systematic coercion originating from the government prevail throughout this area. The fact is that social relations in which money is involved are by far the most abstract and difficult to understand, meaning that the social knowledge generated and implied thereby is the broadest, most complex and hardest to define. This explains why the systematic coercion practiced by governments and central banks in this field is by far the most damaging and prejudicial. Moreover, this intellectual lag in monetary and banking theory has had serious effects on the

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¹F. A. Hayek, *The Fatal Conceit: The Errors of Socialism* (Chicago: University of Chicago Press, 1989), pp. 102–4.

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evolution of the world economy. At present, in spite of all the sacrifices made to reorganize the western economies after the crisis of the 1970s, the same errors of lack of financial and monetary control have unfailingly been committed, inexorably leading to the appearance of a new worldwide economic recession of considerable magnitude.

The fact that the recent monetary and financial abuses mainly originated in the second part of the decade of the 1980s in the policies applied by the supposedly conservative-libertarian administrations of the United States and United Kingdom, dramatizes even more the importance of making theoretical advances in order to avoid, even in the libertarian field, political leaders such as Ronald Reagan and Margaret Thatcher committing the same errors. It is important to make such leaders capable of clearly identifying the only monetary and banking system truly compatible with a free society. In short, it is necessary to develop an entire research program aimed at conceiving what the monetary and banking system of a non-interventionist society should be—a system which it is evident that many libertarians do not see at all clearly.

In the present article, we propose a new approach to the analysis of the problems of monetary and banking theory. We aim to provoke a renewal of the intellectual debate over some aspects of the doctrinal controversy between the advocates of free banking and those who defend central banking, particularly why the institution of central banking may not be a spontaneous and evolutionary result arising from the market. We also hope to throw some light on many specific problems of economic policy of great current importance, in particular the future evolution of the European monetary system.

The Debate Between the Theorists of Free Banking and Central Banking

Beginning with the doctrinal controversy between the supporters of central banking and those who favor free banking, it is first necessary to state that our analysis does not entirely coincide with the nineteenth century controversy between the theorists of the banking and currency schools. In fact, many of those who defended free banking based their reasons on the fallacious and defective inflationist arguments of the banking school, while the majority of the currency school theorists aimed to attain their objectives of financial solvency and economic stability by the creation of a central bank to put a stop to monetary abuses.

From the beginning, however, some reputable currency school theorists considered it impossible and utopian to think that a central bank would not make the problems even worse. They were aware that the best way of putting a stop to the creation of fiduciary media, and to achieve monetary stability was through a free banking system subject, like all other economic agents, to the traditional principles of civil and mercantile law. In addition, paradoxically, the majority of those who defended the tenets of the banking school were, in the end, pleased to accept the establishment of a central bank that, as last resort lender, guaranteed and perpetuated the expansionist privileges of private banking. The privileged bankers tried, in this way, to evade their commitments and devote themselves to the lucrative "business" of creating fiduciary money through the expansion of credit, without having to worry excessively about liquidity problems, thanks to the support implied by the establishment of a central bank.

It is important to emphasize the fact that most of the currency school theorists, even though the heart of their theoretical contributions was correct, were incapable of appreciating that the same defects they rightly attributed to the freedom of the banks to issue fiduciary money in the form of notes, were fully and identically reproduced, though in a more hidden, and therefore, dangerous way, in the "business" of expansively granting credits against the banks' demand deposits. And, moreover, these theorists erred in proposing, as a more appropriate policy, the establishment of legislation which would merely put an end to the freedom to issue notes without backing and create a central bank to defend the most solvent monetary principles.

Only Ludwig von Mises, following the tradition of Cernuschi, Hübner and Michaelis, was capable of realizing that the currency school theorists' recommendation for a central bank was erroneous and that the best and only way of achieving the credible monetary principles of the school was through a free banking system subject, without any privileges, to private law. This failure on the part of the majority of the currency school theorists was fatal. It not only led to the fact that Peel's Act of 1844, in spite of its good intentions and its elimination of the free issue of bank notes, did not eliminate the creation of fiduciary credit. Instead, Peel's Act in effect led to the creation of a central banking system which, subsequently and above all due to the influence of banking school theorists like Marshall and Keynes, was used to justify and promote policies containing a lack of monetary control and financial

abuses much worse than those it was originally intended to remedy.

The Evolution of the Banking System and the Central Bank

The central bank is not a natural product of the development of the banking system.² On the contrary, it is coercively imposed from outside the market as a result of governmental action. Such action, as a consequence of a series of historical accidents, gave rise to a monetary and financial system very different from that which would have emerged spontaneously under a free banking system subject, without privileges, to private law and not coerced by government through the central bank. It is impossible to know what knowledge and institutions the banking entrepreneurs would have created freely if they had been subject to the general principles of law and not to any kind of state coercion.³ Yet we may imagine a generalized system of investment funds in which current "deposits" would be invested, and endowed with great liquidity, but without a guarantee of receiving the face value (which would be subject to evolution of the market value of the corresponding units); a network of entities providing payment and accounting services, etc., operating in free competition and charging fees for their services; and, separately, *without any connection with credit*, a series of private institutions devoted to the extraction, design and offer of different types of private money (also charging a small margin for their services).⁴

In fact, the current central banking system is merely the logical and inevitable result of the gradual and surreptitious introduction by private bankers, historically in complicity with the governments, of a banking system based on a fractional reserve. And it is here essential not to fall into the same intellectual trap as

²Vera C. Smith, *The Rationale of Central Banking and the Free Banking Alternative* (Indianapolis, Ind.: Liberty Press, 1990), chap. 12, p. 169.

³Israel M. Kirzner, *Discovery and the Capitalist Process* (Chicago: University of Chicago, 1985), p. 168.

⁴F. A. Hayek, *Denationalization of Money: The Argument Refined*, 2nd ed. (London: Institute of Economic Affairs, 1978), pp. 119–20. Hayek concludes, "I expect that it will soon be discovered that the business of creating money does not go along well with the control of large investment portfolios or even control of large parts of industry." I am afraid, however, that Hayek gives insufficient recognition of the fact—central to Mises's theory of money—that free market money must be a *commodity* money, and that competing kinds of money are dysfunctional of the very purpose of a medium of exchange, as the free market always generates a tendency of the convergence toward *one*, universally employed commodity money.

the majority of the theorists who have defended the free banking system. With the honorable exception of Mises and very few others,⁵ they do not realize that the only way to achieve a truly free banking system is to reestablish the legal principle according to which it is necessary to keep a reserve of 100 percent of the sums of money received as demand deposits.

In the final analysis, the question is the application in the monetary and banking field of Hayek's seminal idea according to which, whenever a traditional rule of conduct is violated, either through institutional coercion on the part of the government or by the latter's granting special privileges to certain persons or entities, damaging and undesired consequences will, sooner or later, appear, seriously prejudicing the spontaneous social process of cooperation.

The traditional rule of conduct violated in the case of the banking business is the principle of law according to which, in the contract for the deposit of fungible money (also called *irregular deposit*), the traditional obligation of *custody*, which is the essential element of all non-fungible deposits, requires that, at all times, a reserve of one hundred percent of the amount of fungible money received in deposit be maintained. This means that all acts which make use of that money, specifically the granting of credits against it, are a violation of that principle and, in short, an illegitimate act of undue appropriation.

In the continental European juridical tradition, there is a long-established principle that dates back to the old Roman Law according to which *custody, in irregular deposits, consists precisely of the obligation to always have an amount equal to that received at the depositor's disposal*. The custodian of a deposit must "have always available a quantity and quality equal to that received of certain things," regardless of whether they are continually renewed or substituted. This requirement is the equivalent, for fungible goods like money, of the continued existence of the item *in individuo* for infungible goods.⁶ This general legal

⁵Before Mises, the most distinguished author who defended the one hundred percent reserve requirement was David Hume in his essay "Of Money" (1752), where he states that "no bank could be more advantageous, than such a one as locked up all the money it received, and never augmented the circulating coin, as is usual, by returning part of its treasure into commerce." David Hume, *Essays: Moral Political and Literary* (Indianapolis, Ind.: LibertyClassics, 1985), pp. 284–85.

⁶On juridical considerations of the traditional legal principle in question, see not only all Title 3, Book 16 of the Digest, especially sections 7 and 8 on the bankruptcy of bankers (*El Digesto de Justiniano* 1 [1968]: 606–17, esp. 112, [Spanish edition published by Aranzadi, Pamplona], but also the fine argument by

principle which requires one hundred percent reserve banking has been upheld, even in this century, by French and Spanish jurisprudence.

A ruling of the Court of Paris of June 12, 1927 condemned a banker for the offense of undue appropriation because he had used, in accordance with common banking practice, the funds which he had received in deposit from his clients. Another decision of the same Court dated January 4, 1934 made the same ruling, and even more curious was the ruling of the Court of First Level which heard the case of the bankruptcy of the Bank of Barcelona, according to which the depositor's power to draw checks implies for the depositee the obligation to *always* have funds at the disposal of the current account holder, making it unacceptable that a bank consider the funds deposited in a current account in cash as belonging exclusively to itself.⁷ We should add that the "undue appropriation" arises when the undue act (lending the amount deposited) is committed, and not when it is discovered a long time afterwards (generally by the depositor at the counter of a bank which cannot return his money to him). Moreover, the trite argument that the "law of large numbers" allows the banks to act safely with a fractional reserve cannot be accepted, since the degree of probability of an untypical withdrawal of deposits is not, in view of its own nature, an insurable risk.

The Austrian theory of economic cycles has perfectly explained how the system of fractional reserve banking itself generates economic recessions *endogenously* and recurrently and, hence, the need to liquidate wrongly induced investment projects, to return bad loans and withdraw deposits on a massive scale. And, as all insurance theorists know, the consequences of an event (untypical withdrawal of deposits) which is not totally

the Spanish Jesuit Luis de Molina, for whom the banker with a fractional reserve "sins by endangering his own capacity to meet his debts, even if in the long run he suffers no legal difficulties because his speculations with the clients' funds turned out well (quoted from *De Iustitia et Iure*, Maguntiae [1614], in Alejandro Chafuen, *Christians for Freedom: Late Scholastic Economics* [San Francisco: Ignatius Press, 1986], p. 146 n. 1-7). See also the refined conclusions of Pasquale Coppa-Zuccari included in his definitive work *Il Deposito Irregolare* (Modena 1901), quoted by, among others, Joaquín Garrigues in his *Contratos Bancarios*, 2nd ed. (Madrid, 1975), p. 365. All these considerations are also applicable to so-called financial operations with repurchase agreements at any moment and at face value (and not at a fluctuating secondary market price), since they disguise, by fraudulently using the law for a purpose for which it was not intended, what are really deposit contracts.

⁷Ibid., pp. 367-68.

independent of the "insurance" itself (fractional reserve) are not technically insurable, for reasons of *moral hazard*.⁸

In the course of history, bankers were soon tempted to violate the above-mentioned rule of conduct, using the money of their depositors to their own benefit.⁹ This happened shamefacedly and secretly at first, since the bankers were still conscious of acting incorrectly. It occurred, for example, with the Bank of Amsterdam, when the activities of the bank were carried out, for the reasons mentioned, according to the words of Sir James Steuart, with the *maximum secrecy*.¹⁰ It should be noted that the entire prestige of the Bank of Amsterdam was based on the belief that it held a reserve of one hundred percent, a principle which, only fifteen years previously, David Hume believed to be in force.¹¹ And in 1776, Adam Smith mentioned that, at that time, the Bank of Amsterdam *continued to say* that it held a cash ratio of one hundred percent.¹²

Only later did the bankers achieve the open and legal violation of the traditional legal principle, when they were fortunate enough to obtain from the government the *privilege* of using part of the money of their depositors to their own benefit (generally in the form of credits, often granted initially to the government itself). In this way the relationship of complicity and the coalition of interests which now traditionally exists between governments and banks commenced, explaining perfectly the relationship of intimate "comprehension" and "cooperation" which exist between both types of institutions and which, nowadays, may be observed, with slight differences of nuance, in all western countries at all

⁸With regard to the class probability (objective), which is insurable, and the single event probability, influenced and determined by human action (not insurable), see Ludwig von Mises, *Human Action: A Treatise on Economics*, 3rd rev. ed. (Chicago: Henry Regnery, 1966), pp. 106–15; and also Jesús Huerta de Soto, *Socialismo, Cálculo Económico y Función Empresarial* (Madrid: Unión Editorial, 1992), pp. 46–48.

⁹The temptation was enormous and almost irresistible, given how lucrative it was. We must remember that, in the final analysis, the system of fractional reserve banking consists of creating loans from nothing and requiring that the borrowers return them in real money and with interest, too!

¹⁰Sir James Steuart, *An Inquiry into the Principles of Political Economy: Being an Essay on the Science of Domestic Policy in Free Nations* (London: A. Millar and T. Caddell in the Strand, 1767), vol. 2, p. 301.

¹¹David Hume, "On Money," p. 284.

¹²The Bank of Amsterdam professes to lend out no part of what is deposited with it, but for every gilder which it gives credit in its books, to keep in its repositories the value of a gilder, either in money or bullion" (Adam Smith, *The Wealth of Nations* [London: W. Strahan and T. Caddell in the Strand, 1776], vol. 2, bk. 4, chap. 3, p. 72).

levels. Furthermore, the bankers soon realized that the violation of the traditional legal principle mentioned above gave rise to financial activity which was highly lucrative for them, but which always required the existence of a last resort lender, or central bank, to provide the necessary liquidity at the difficult moments which, as experience demonstrated, always recurred.¹³

The Fractional Reserve Banking System: The Central Bank and the Theory of Economic Cycles

The inauspicious social consequences of this *privilege* granted to the bankers (but not to any other individual or entity) were not completely understood until the development, by Mises and Hayek, of the Austrian theory of economic cycles.¹⁴ In short, what the Austrian School theorists have shown is that persistence in pursuing the theoretically impossible objective—from the legal-contractual and technical-economic viewpoints—of offering a contract that simultaneously tries to combine the best features of investment funds—especially the possibility of obtaining interest on the “deposits”—with the traditional deposit contract—which, by definition, must permit withdrawal of its face value at any moment—must inexorably, sooner or later, lead to uncontrolled expansion in the monetary supply, inflation, and the generalized incorrect allocation of productive resources at a microeconomic level. In the final analysis, the result will be recession, the rectification of errors induced in the productive structure by prior credit expansion and massive unemployment.

It is necessary to realize that the privilege granted to the banks permitting them to carry on activity with a fractional

¹³It is curious to observe how the bankers used all their influence and social power (enormous, in view of the large numbers of the public who received loans from them or were their shareholders) to impede and discourage the depositors from withdrawing their deposits, in the vain hope of avoiding the crisis. Thus, State Senator Condy Raguet of Pennsylvania, concluded that the pressure was almost irresistible and that “an independent man, who was neither a stockholder nor a debtor, who would have ventured to compel the banks to do justice, would have been persecuted as an enemy of society.” Letter from Raguet to Ricardo dated April 18, 1821, published in David Ricardo, *Minor Papers on the Currency Question 1805–1823*, Jacob Hollander, ed. (Baltimore, Maryland: The Johns Hopkins University Press, 1932), pp. 199–201; quoted in Murray N. Rothbard, *The Panic of 1819: Reactions and Policies* (New York: Columbia University Press, 1962), pp. 10–11.

¹⁴A brief explanation of the Austrian theory of economic cycles, together with the most significant bibliography on the topic, may be found in my article “The Austrian Theory of Economic Cycles,” originally published in *Moneda y Crédito*, no. 152 (Madrid, March 1980), and republished in volume 1 of my *Lecturas de Economía Política* (Madrid:Unión Editorial, 1986), pp. 241–56.

reserve, implies an evident attack against a correct definition and defense of the property rights of the depositors by the governmental authorities. This inevitably generates, as is always the case when property rights are not appropriately defined, the typical effect of "tragedy of the commons," by virtue of which the banks are inclined to try to get ahead and expand their corresponding credit base before, and more than, their competitors. Therefore, a banking system based on a fractional reserve will always tend towards a more or less uncontrolled expansion, even if it is controlled by a central bank which, in contrast to what has normally been the case, is seriously concerned about controlling it and establishing limits. In this respect, Anna J. Schwartz reaches the conclusion that many modern theorists of the free banking system do not completely understand: that the system of interbank clearing houses which they propose does not act as a brake on credit expansion if all the banks decide to expand their credit simultaneously, to a greater or lesser extent.¹⁵ This phenomenon, which had already been set out by Ludwig von Mises in his brilliant explanation of the free banking system,¹⁶ drove us to seek its explanation in the typical process of the "tragedy of the commons": the entire expansive process originates, as we have seen, from a *privilege* that contravenes property rights. Each bank internalizes all the profits obtained from expanding its credit, making the corresponding costs fall, dilutedly, upon the entire banking system. For this reason, it is easy to understand that a mechanism of inter-bank compensation or clearing houses may put a stop to individual, isolated expansion initiatives in a free banking system with fractional reserves, but is useless if all the banks, to a greater or lesser extent, are carried away by "optimism" in the granting of credits.

The proposal to establish a banking system with a one hundred percent reserve was already included in the first edition of *The Theory of Money and Credit* published by Mises in 1912, in which the author reached the conclusion that "it is obvious that the only way of eliminating human influence on the credit system is to suppress all further issue of fiduciary media. The basic conception of Peel's Act ought to be restated and more completely implemented than it was in the England of his time by including

¹⁵See her article "The Theory of Free Banking," presented at the regional meeting of the Mont Pèlerin Society in Rio de Janeiro from September 1993, especially page 5.

¹⁶Mises, *Human Action*, pp. 648-88.

the issue of credit in the form of bank balances within the legislative prohibition."¹⁷ Subsequently, Mises again dealt with the matter even more explicitly in 1928¹⁸ and especially in the appendix on *Monetary Reconstruction* which he incorporated into the English edition of *The Theory of Money and Credit* in 1953, where he expressly states that "the main thing is that the government should no longer be in a position to increase the quantity of money in circulation and the amount of checkbook money not fully—that is, one hundred percent—covered by deposits paid in by the public."¹⁹ Hayek already referred to this proposal in 1937²⁰ and it is evident that Hayek, like Mises, proposes the free choice of currency and banking system as a means to achieve, in the final analysis, a banking system based on a one-hundred-percent-cash-ratio.²¹ After Mises, the writer who has, in modern times, defended the elimination of the banking system as we know it today with the greatest determination and brilliance is, without doubt, Murray N. Rothbard.²²

Also in modern times, Maurice Allais has defended the principle of the one hundred percent reserve, although it is true that he defends it as a means to facilitate the monetary policies of governments, preventing their elastic and distortive expansion through the fractional reserve banking system.²³ Maurice Allais, in this respect, merely follows the now abandoned Chicago School tradition in favor of the one-hundred-percent-cash-ratio in order to make the monetary policies of the governments more

¹⁷Ludwig von Mises, *The Theory of Money and Credit* (Indianapolis, Ind.: Liberty Press, 1980), p. 447.

¹⁸Ludwig von Mises, "Monetary Stabilization and Cyclical Policy," in *On the Manipulation of Money and Credit* (Irvington-on-Hudson, N.Y.: Free Market Books, 1978), pp. 167–68.

¹⁹Mises, *The Theory of Money and Credit*, p. 481.

²⁰F. A. Hayek, *Monetary Nationalism and International Stability* (New York: Augustus M. Kelley, 1971), pp. 81–84.

²¹F. A. Hayek, *Denationalization of Money*, pp. 119–20.

²²See particularly Murray N. Rothbard's books *The Case for a One Hundred Percent Gold Dollar*, 2nd ed. (Auburn, Ala.: Ludwig von Mises Institute, 1991) and *The Mystery of Banking* (New York: Richardson & Synder, 1983); and his articles "The Myth of Free Banking in Scotland," *Review of Austrian Economics* 2 (1988): 229–45 and "Aurophobia: or, Free Banking on What Standard?" *Review of Austrian Economics* 6, no. 1 (1992): 99–108.

²³Maurice Allais, "Le retour à L'État du privilège exclusif de la creation monétaire" in *L'Impôt sur le capital et la réforme monétaire* (Paris: Hermann Editeurs, 1985), pp. 200–10, and also his most recent article "Les conditions monétaires d'une économie de marchés: des enseignements du passé aux réformes de demain," *Revue d'économie politique*, 3 (May/June 1993): 319–67.

effective and predictable.²⁴ Although monetary policy would be more predictable with a one-hundred-percent-cash-ratio, all the Chicago theorists are ingenuous if they think that the government can and will want to carry out a stable monetary policy. This ingenuousness is parallel and similar to that shown by the modern fractional reserve free banking theorists, when they trust that spontaneous clearing house mechanisms can put a brake on a simultaneous and agreed upon expansion by a majority of banks. *The only correct solution for a society free of privileges and economic cycles is, therefore, banking which is free but subject to the law, i.e., with a reserve ratio of one hundred percent.*

The Monetary and Banking System in a Free Society

In short, the main defect of the majority of the theorists who defend free banking is their failure to realize that the demand for a one hundred percent reserve requirement is theoretically inseparable from their proposal. Specifically, they have not appreciated that all the defects which advocates of the central bank see in the free banking system lose their potential and completely disappear if it is put into practice on the basis of traditional legal principles. Or, to put it another way, using Mises's words, the issue is to subject the banks to the traditional principles of civil and mercantile law, according to which each individual and each enterprise must meet its obligations in strict accordance with what is literally established in each contract.²⁵

This error is very generalized and affects, in particular, the interesting and broad literature which has been developed as a result of the great echo arising from the publication of Hayek's book on the *Denationalization of Money*, together with the important economic and financial crisis which took place at the end of the 1970s. The most important comment I have on all this literature

²⁴This tradition was initiated by an anonymous 26-page pamphlet on "Banking and Currency Reform," circulated in 1933 by Henry C. Simons, Aaron Director, Frank H. Knight, Henry Schultz, Paul H. Douglas, A. G. Hart and others and subsequently articulated by Henry C. Simons, "Rules versus Authorities in Monetary Policy," *Journal of Political Economy* XLIV, no. 1 (February 1936): 1-30; Albert G. Hart "The 'Chicago Plan' of Banking Reform," *Review of Economic Studies* 2 (1935): 104-16; and Irving Fisher *100 Percent Money* (New York: Aldelphi, 1936) culminating in 1959 with the publication of Milton Friedman's book *A Program for Monetary Stability* (New York: Fordham University Press, 1960).

²⁵Mises, *Human Action*, p. 443. In short, according to Mises, it is a question of replacing the current tangle of administrative banking legislation by clear and simple articles in the commercial and criminal codes.

is that, apart from a few exceptions, it uses the defense of a free banking system to put forward whims typical of the old "banking school," the erroneous principles of which were demonstrated long ago. Moreover, all this literature, which is headed by the works of White, Selgin and Dowd,²⁶ among others, forgets that, as we have argued, the only way of getting rid of the central bank and its excesses is by eliminating the fractional reserve privilege which private bankers currently exploit.

If one wishes to defend a truly stable financial and monetary system for the next century, one which immunizes our economies against crises and recessions as much as is humanly possible, it will be necessary to establish three conditions: (1) complete freedom of choice of currency; (2) a free banking system; and (3) most importantly, all the agents involved in the free banking system are subject to and follow, in general, traditional legal rules and principles. In particular, the principle according to which nobody, not even the bankers, should enjoy the privilege of lending something which has been deposited with him as a demand deposit (i.e., to maintain a banking system with a reserve of one hundred percent).

The modern free banking theorists erroneously consider (due, among other things, to their lack of a juridical background), that the one hundred percent reserve requirement would be an inadmissible *administrative* interference with individual freedom. They do not realize that, far from implying systematic administrative coercion by the government, as we have seen, this precept is merely the application of the traditional principle of *property rights*. In other words, they do not realize that the famous anonymous phrase of an American quoted by Tooke, according to which "free banking is equivalent to free swindling"²⁷ is applicable to free banking not subject to law (and which, therefore has, fractional reserves). In the final analysis, the defense of free banking must be made, not as a means to exploit the lucrative possibilities of credit expansion, but as an *indirect* means to get closer to the

²⁶Thus, for example, see the works of Lawrence H. White, *Free Banking in Britain: Theory, Experience and Debate, 1800-1845* (Cambridge: Cambridge University Press, 1984) and *Competition and Currency: Essays on Free Banking and Money* (New York: New York University Press, 1989); those of George A. Selgin, *The Theory of Free Banking: Money Supply under Competitive Note Issue* (Totowa, N. J.: Rowman and Littlefield, 1988) and *The Experience of Free Banking*, George A. Selgin and Kevin Dowd, eds. (London: Routledge, 1992); and those of Kevin Dowd, *The State and the Monetary System* (New York: St. Martin's Press, 1989) and *Laissez Faire Banking* (London: Routledge, 1993).

²⁷Quoted by Mises in *Human Action*, p. 446.

ideal model of free banking with a one hundred percent reserve requirement which, additionally, must be *directly* pursued by all the legal means available in each historical circumstance.²⁸

Although the foregoing economic policy recommendations may appear *utopian* and very distant from the practical problems we have to deal with, especially with regard to the design and management of a European monetary system, they indicate, at all times, at least the appropriate direction which reform should take and dangers that must be avoided. Thus, it seems clear that we should reject both a system of monopolistic national currencies which compete among themselves in a chaotic environment of flexible exchange rates, as well as the move towards the creation of a central European bank.

This proposed central European bank would prevent the competition among currencies over a wide economic area, would not confront the challenges of banking reform, would not guarantee a monetary stability which is at least as great as that of the most stable national currency at each moment and would set up, in short, a definitive obstacle to making subsequent reforms in the right direction.

Perhaps the most practicable and appropriate model in the short and medium terms is, therefore, to introduce throughout Europe the complete freedom of choice of public and private currencies inside and outside the Community, linking the national currencies which, for reasons of historical tradition continue in use, to a system of fixed exchange rates. These rates would discipline the monetary policy of each country in accordance with the policy of that country which, at each historical moment, is carrying out the most solvent and stable monetary policy. In this way, at least the door would remain open for some nation-state of the EEC to have the possibility of advancing along the three lines of monetary and banking reform indicated above,²⁹ forcing its partners in the Community to follow its monetary leadership along the right lines. (This, and

²⁸Only in the sense of indirectly getting closer to the ideal should we understand Cernuschi's position, mentioned by Mises (in *Human Action*, p. 446), when in 1865, he said, "I believe that what is called freedom of banking would result in a total suppression of banknotes in France. I want to give everybody the right to issue banknotes so that nobody should take banknotes any longer."

²⁹The practical problems posed by the *transition* from the current monetary and banking system to a system in which, at last, the creation of money and the banking business were completely separated from the State have been theoretically analyzed and solved by, among others, Murray N. Rothbard in his *Mystery of Banking*, pp. 249-69.

nothing else, appears to have been the essence of the project defended by Margaret Thatcher and the incorrectly named group of "Euroseptics" who follow her, among whom this author is included, for the monetary future of the EEC.)

It is evident that the definitive work on monetary and banking theory, in the light of the historic controversy taking place between those who favor free banking and those who support a central bank, has not yet been written. Therefore, we are afraid that it is not unrealistic to think that the world will continue to suffer recurrently, very dangerous economic recessions as long as the central banks maintain their monopoly on currency issue, while the privilege granted to the bankers by the governments is not abolished. And, in the same way as we began this article, we would dare to say that, after the historic, theoretical and actual fall of socialism, the main theoretical challenge faced by both professional economists and lovers of freedom well into the next century will consist of fighting with all their strength against both the institution of central banking and the maintenance of the privilege currently enjoyed by those who practice private banking activities.

Free Banking and the Free Bankers

Jörg Guido Hülsmann

The literature on free banking has expanded dramatically in the last two decades. A young generation of economists has regained interest in questions of money, banking, and currency that, for a very long time, had disappeared from broad discussion. This renewed interest was partly sparked by poor results from government regulation of the money supply by central banks, as well as other legal devices and restrictions. Such failures have undermined the once-common belief that blessings can flow from government monetary meddling. Because free banking was the historical predecessor of and natural alternative to monetary interventions, the theory and practice of free banking has attracted a great deal of interest.

It is common for people eager to fight for a specific cause to employ intellectual means unfit to serve their ends. As a result, they may achieve the opposite of their intentions, undermining the ideals and ideas they are seeking to promote.

Such is the case with free banking. The case for authentic free banking has been obscured by the strongest defenders of free banking.¹ In defending views that are not only unrelated to free banking but even fallacious, the free bankers do much harm to their case, inadvertently adding weight to the critique of free banking offered by advocates of central banking and government money.

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¹Kevin Dowd, David Glasner, Steven Horwitz, A. J. Rolnick, Larry Sechrest, George Selgin, Lawrence White, and Richard Timberlake. I shall concentrate my discussion on the works of Dowd, Selgin, and White. It is here that the doctrine is elaborated. By contrast, the contribution of Sechrest consists of a formal, i.e., mathematical, expression of their tenets; Glasner and Horwitz base their works heavily on Selgin's *Theory of Free Banking*; and Rolnick and Timberlake have contributed applications of free banking theory to historical episodes.

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We can divide the advocates of free banking into two groups. The first group proceeds from the assumption that the money and banking sector can operate with virtually no money at all. Within this group, there are additional disagreements. They concern the questions of whether *laissez-faire* would only be efficient in a situation in which no money is used² or whether free banking would even actively bring such a situation about.³

The internal dispute within this first group is not essential to understanding a more fundamental fallacy of its theory. The hope of a high degree of division of labor without the use of money is futile; there can be no "unit of account" without indirect exchange. Economic calculation presupposes the use of a general medium of exchange. Everyone is, indeed, free to *translate* a money calculation into whatever unit he likes.

Using, for example, coat hangers as the "unit of account," one could calculate a profit of 1000 coat hangers from an investment. Yet this calculation is nothing but an algebraic expression of: "*For the money* which was spent in the investment I could have bought 500 coat hangers, and *for the money* I received in exchange of the product of the investment I could buy 1500 coat hangers. If after my investment, my money can buy more coat hangers, I am richer than before. In the same sense my investment can be regarded as profitable." No *numéraire* or "commodity bundle" or anything else could serve as a calculation unit if there were no money in use. No indirect exchange can be settled without the use of money.

The focus of our thesis, therefore, lies on the discussion of the second group, comprising the more common free bankers. This group shares the view that no modern society is possible without the use of money.⁴ They disagree, however, over the social and

²See Fischer Black, "Banking and Interest Rates in a World Without Money," *Journal of Banking Research* 1 (1970); Eugene F. Fama, "Banking in a Theory of Finance," *Journal of Monetary Economics* 15 (1980); Robert E. Hall, *Inflation, Causes and Effects* (Chicago: University of Chicago Press, 1982); Robert L. Greenfield and Leland B. Yeager, "Laissez-faire Approach to Monetary Stability," *Journal of Money, Credit, and Banking* 15 (1983).

³See Neil Wallace, "A Legal Restrictions Theory of the Demand for 'Money' and the Role of Monetary Policy," *Federal Reserve Bank of Minneapolis Quarterly Review* (1983); Thomas Sargent and Neil Wallace, "The Real-Bills Doctrine versus the Quantity Theory: A Reconsideration," *Journal of Political Economy* 90 (1982).

⁴With the exception of Kevin Dowd, see, *The State and the Monetary System* (London: Phillip Allan, 1989), p. 188; idem., *Laissez-faire Banking* (New York: Routledge, 1993), pp. 66f; David Glasner, *Free Banking and Monetary Reform* (New York: Cambridge University Press, 1989), p. 240f; and Richard Timberlake, *Gold, Greenbacks, and the Constitution* (Berryville, Va.: George Edward Durell

economic effects caused by money substitutes. Some of them claim that the practicability of free banking requires full coverage of money substitutes. If the issuer of each ticket grants the right to redeem, at par and at the arbitrary request of the holder, a certain quantity of money has to be held as a 100 percent reserve. Where this is the case, the money substitutes have the character of certificates. By contrast, tickets issued on a less than 100 percent reserve are called fiduciary money substitutes. They are no longer certificates because they are only fractionally covered by the quantity of money to which they represent a claim.

In addition, the “free bankers” of this second group claim that fractional reserve banking would not only be practicable but also beneficial. Predictably, then, they also argue that 100 percent reserve banking has considerable disadvantages. A critique of their tenets, therefore, has to embrace both their arguments in favor of fractional and against 100 percent reserves. First I will discuss free banking on a 100 percent gold standard and the principal arguments that have been pronounced against it. Then I turn to the alleged benefits of free banking on a fractional reserve basis. Finally, I try to explain why neither fractional banking nor banking on a fiat money base can be practicable.

Free Banking on a 100 Percent Gold Standard

Money and Substitutes for Money

In monetary theory, there is hardly a word (apart from inflation) that causes as much confusion as the word money itself. It is vital to distinguish money from money substitutes. Yet this distinction is obfuscated by calling the latter “inside” money and the former “outside” money. The same confusion results from spurious talk of “base money,” “basic money,” or “high-powered money.” These terms suggest that there is no practical difference between them; all the instruments in question are somehow “money.” The climax of all this rhetorical excess is undoubtedly attained when fractional reserve advocates George Selgin and Lawrence White speak of gold or the gold dollar “as a substitute for bank deposits.”⁵

Foundation, 1991), pp. 60ff. For a critique of the latter see Rothbard, “Aurophobia: or, Free Banking on What Standard?,” *Review of Austrian Economics* 6, no. 1 (1992): 97–108.

⁵George Selgin and Lawrence White, “How Would the Invisible Hand Handle Money?,” *Journal of Economic Literature* 32 (1994): 1737. See also Lawrence White, “Identifying Money,” in his *Competition and Currency* (New York: New York University Press, 1989), pp. 206ff.

Does there exist something like a second kind of money? Imagine two scenarios faced by moviegoers. In the first, an individual purchases a ticket, but before entering the theater and taking his seat he decides not to see the movie because there are more urgent things to do. He therefore sells it to somebody who does not yet have one. In the second scenario, the same individual enters the cinema, redeems his ticket with the usher, and takes his seat, but then decides not to stay. His neighbor has found a friend who wants to sit in his place, and he sells his seat to him.

Clearly, in this second scenario his neighbor has not purchased a *substitute for a movie ticket*. He has purchased the seat beside him for the time that the movie is shown. The same holds true in the first case. The first moviegoer did not sell a piece of paper; but sold a seat to a certain showing of the movie. Otherwise he would not have been able to get something in exchange for the ticket. Nobody interested in seeing a film would buy sheets of paper called "tickets" if they were not a means for seeing the film. Neither is anybody eager to buy sheets of paper called banknotes were it not for the convenient disposition of money.

It is also problematic to describe the relationship between money and money substitutes as one of fixed parity or convertibility. In a larger sense all goods exchanged against one another have a parity, that is, the exchange rate. In the same sense, all goods exchanged on the market have proven to be convertible into one another. However, this does not mean that the parity is already implied in the existence of the exchanged goods.

Assume that Paul exchanges eight hours of his work against one ounce of gold. *After* the exchange has taken place, one can say that Paul's work has been converted into gold or that gold has been converted into Paul's work. Yet the existence of one ounce of gold does not imply that one will receive eight hours of Paul's work for it. Nor does Paul's capacity to work stem from the fact that it can possibly be exchanged against one ounce of gold. The existence of the gold and the existence of Paul's capacity to work are independent from each other. Their exchange rate is not implied in their mere existence.

It is different with money substitutes. They can only come into being as a claim, a part of a contract, that fixes their exchange rate to money. They are signs, expressions for the disposition of a certain quantity of money. When they are exchanged against money they are redeemed. Redeemability is the original meaning of the term convertibility. A document that is convertible in this sense can never have a value different from the object that it gives

a claim to. A convertible currency—money substitutes in the form of bank notes—can neither be a money nor a standard.⁶ Only irredeemable notes are money—that is, fiat money. They are valued separately because they can be used independently from other goods.

Banknotes and demand deposits are money in only one case: if they do not represent claims. Obviously such a situation cannot come about unless the redemption promise is broken. Breaking a contract amounts to an expropriation of the partner in exchange. That our present money consists of irredeemable banknotes and demand deposits—of central banks—is the result of government-initiated expropriations of money that characterize modern history.⁷ Banknotes can only be government (fiat) money because no other agent in a modern state can break contracts on such a wide scale without fear of punishment.

In a system of free banking—whether on a fractional or 100-percent-reserve basis—the demand deposits and banknotes of the competing banks are *substitutes*. They represent a convenient means of documenting claims on money. In exchanging these tickets, one exchanges ultimately (presently existing) money of which they are considered to be representative. Under a gold standard, the exchange of banknotes signifies the exchange of weights of gold. Tickets and other signs are useful because they are not as heavy or voluminous as the goods that are the real objects of the exchange.

Would there be Money Substitutes on a 100 Percent Reserve Basis?

Under a 100 percent gold standard all money substitutes are entirely covered by gold. For each checking account and for each banknote held by the public, the designated amount of gold lies in the vaults of some bank.⁸ The banks do not lend this gold to other market participants. They hold it and permit the owner to use some substitutes for his gold that facilitate his market exchanges.

⁶See the contrary opinion of White, *ibid.*, pp. 134f.

⁷See, for example, V. C. Smith, *The Rationale of Central Banking* (1936; Indianapolis, Ind.: Liberty Classics, 1990); Kevin Dowd, *Laissez-faire Banking*, esp. chap. 10.

⁸It is noteworthy that what is said about banks applies to virtually all financial intermediaries dealing with money substitutes. Money substitutes are not only banknotes and demand deposits but principally *all* claims that have to be redeemed at par into money whenever the holder of the claim likes to have money substitutes. See in particular Murray N. Rothbard's excellent analysis of money substitutes in the 1920s in *America's Great Depression*, 4th ed. (New York: Richardson and Snyder, 1983), p. 83.

In dealing with demand deposits and notes, banks do not act as financial intermediaries but as warehouses. Financial intermediation, then, can only be provided if and insofar as market participants temporarily *renounce* a claim to the disposition of their money and give it into the disposition of their banks. This is the meaning of the term credit. Under 100 percent reserve banking, credit given by money owners is the necessary condition of financial intermediation. Only if a gold owner has lent his gold to his bank can the bank, in turn, lend this gold to other market participants. Banks are thus engaged in two completely distinct businesses. On the one hand, there is the warehouse business with money substitutes; on the other hand, there is the credit business with money that has been given for their exclusive disposition. There is no reason to assume that these two businesses must always be performed by the same company. Specialization can lead to exclusive gold warehouses and exclusive financial intermediaries.⁹

The money owners profit from the use of banknotes and checking accounts. They do not have to charge themselves with the inconveniences that go hand-in-hand with the use of relatively voluminous and heavy metallic money. In the case of checking accounts they can also avoid the risks of keeping their money at their homes, for no check is valid without their signature.

The holders of demand deposits, in one way or another, have to pay for these services. Their bank will have to charge them with the full costs of security provisions, and of the factors of production the bank has to buy in order to deal with depositors. Otherwise, either the bank's profits would be reduced, or it would have to charge the costs to its financial intermediation business. In the latter case, the bank would become less attractive in comparison to its competitors. It would either have to charge higher interest rates for the money it lends or pay lower interest rates on the money it borrows.

One hundred percent reserve banking differs from banking as we know it from our daily transactions because interest could no longer be paid *on* demand deposits, but a fee would have to be paid *for* them. It is therefore very probable that, should such a system be introduced, fewer people than today would like to hold their money with the banks and use money substitutes instead.

⁹See Condy Raguet's discussion "Of Banks of Deposits, Banks of Discount, and Banks of Circulation" in his *Treatise on Currency and Banking* (New York, 1840), pp. 67ff.

One cannot say that no money owner would accept such a deal. Questions of this kind can only be answered empirically, that is, not before banks and their customers actually deal with such a situation. If there is at least one customer to whom using money substitutes is more important than the fee due, then there will be money substitutes on a 100 percent reserve basis.

Warehouses for money would not be more unusual than warehouses for other commodities. Considering the conveniences linked to the use of money substitutes, there are good reasons to believe that the latter will find employment especially in the performance of big payments. Yet all other transactions will largely be dominated by specie. Thus, under 100 percent reserve banking, gold would certainly not be outcompeted by its substitutes. It would always stay in circulation.¹⁰ However, in a big and growing market, the inconveniences linked to the use of relatively heavy and voluminous gold (and especially silver) money would be progressively reduced. The more transactions are effected on the market, the more purchasing power would accrue to a given quantity of gold.¹¹

The Consequences of Individual Failure Under 100 Percent Reserve Banking

Under 100 percent reserve banking all banks can operate independently of one another. The illiquidity of one bank never implies the illiquidity of the others. If one bank is becoming illiquid, it is forced to retire immediately all the money it has lent to other market participants (and, hence, to other banks). However, this will never lead to the illiquidity of those borrowers who have not engaged themselves in the transformation of maturity. Illiquidity will be limited to those borrowers who had put the borrowed money into employments that are more lengthy than the credit term and who now are unable to meet their obligations.

At all times and in all places there will be market participants whose speculations prove to be erroneous and who fail to fulfill their contracts. Such failure always has negative repercussions

¹⁰See, Hans-Hermann Hoppe, "How is Fiat Money Possible," *Review of Austrian Economics* 7, no. 2 (1995): 57.

¹¹This argument was used by Condillac in order to claim that not only the quantity of money is rather irrelevant but that, on the contrary, it would be advantageous if it were smaller ("On voit donc qu'il est assez indifférent qu'il y ait beaucoup d'argent, et qu'il serait même avantageux qu'il y en eut moins. En effet, le commerce se ferait plus commodément. Quel embarras ne serait-ce pas si l'argent était aussi commun que le fer?" *Le Commerce et le gouvernement* (Paris, 1795), p. 87).

on their business partners and regularly leads to the failure of some of them, too. But so long as error is limited to only a few market participants, it cannot have, under 100 percent reserve banking, repercussions on the whole economy. Ruins will then always impede only a very limited group of enterprises. There will always be a problem concerning the immediate business environment of the errant. No central bank is needed to limit their repercussions further.

Nobody has ever raised the objection that a 100 percent reserve system would lead to wide-spread business failure. Nobody has ever been able to prove that this system cannot endure, that it must inevitably lead to its own destruction. All of its critics have pointed to some alleged shortcomings of 100 percent reserve banking for which they propose fractional reserves as an antidote. In the next section the question of such "shortcomings" will be examined.

Critics of 100 Percent Reserve Banking

The Alleged Costs of 100 Percent Reserve Banking

The most common objection against a full coverage of money substitutes is that the system would be too costly. The money in the vaults of the banks is lying idle. It could be better used for other purposes, for example lending it to someone in need of a credit. This idea is entirely wrong. The confusion that constantly arises about this issue is related to the concept of cost itself. Costs are always the costs of an action that an individual confronts. They consist of all the desirable effects that, in the eyes of the actor, cannot be brought about because he has preferred to aim at some other ends. Costs are the expected forgone utility.

The concept of cost has no meaning whatever apart from choice. It cannot be understood if only one action is considered apart from two alternative actions. Every actor is always confronted with *some* costs. The use of money is no exception. From the point of view of a money user, it is obvious that holding money, whether in cash or in form of a bank account, is costly. Indeed, he could employ it in buying some useful commodity or service. Accordingly, it is also costly for the bank to keep large stocks of money. There are always some people ready to pay at least *some* interest rate on additional funds.

However, does the mere fact that an action is costly represent a shortcoming of this action? Does the mere existence of costs represent a shortcoming of the use of money? Clearly, the answer

is no. Costs are the forgone utility of an action that is not carried out because another action has been preferred. Hence, so long as a person has to choose from among the specified ends the chosen action must be costly. And so must be the use of all other means that could also be used in another way. We can employ no commodity without having it at our discretion, namely, without holding it. Therefore holding it must be costly in one respect or another. There are always costs with the *holding* of money because its *use* implies holding it.

It seems as if at least some of the free bankers agree with this argument. They concede the fact "that the use of money carries with it certain social costs (forgone benefits of barter) does not compel one to conclude that its costs outweigh its benefits."¹² Indeed, the very use of money *implies* that for its user the benefits outweigh the costs. Money is always used in spite of its costs. However, the free bankers fail to see what this implies about 100 percent reserve. They continue to adhere to the spurious distinction between money hoards and money in circulation. In their eyes, there are people who do not want to hold money but only want to use it in market exchanges. Where no money is held, they suggest, there can be no costs. This reasoning is fallacious. It is impossible "to receive money in exchange for other goods and services" without having the "desire to hold money balances."¹³ The use of money must always be costly.

True, say some economists, the mere fact that costs are inextricably linked to the employment of all non-specific means cannot reasonably be considered as a disadvantage. But does this compel us to satisfy ourselves with the present level of costs? All great inventions have this in common that they reduce the costs of action. Why, then, should we not seek for such cost reductions in the realm of money?

Look, for example, at cars parked idly in the streets while their users are at work. They just use their cars to drive from their homes to work in the morning and in the evening they drive them back home again. Many more services could be rendered by these cars if their owners would allow other people to use them during their worktime. The same thing holds true for money. Instead of lying idly in the vaults of the banks, it could be usefully employed by other people in the meantime.

¹²Lawrence White, *Competition and Currency*, p. 200.

¹³George Selgin, *The Theory of Free Banking* (Washington, D.C.: Cato Institute, 1988), p. 53.

Thus, a certain quantity of gold could serve several bank customers at the same time. This is the nature of fractional reserve banking.

We do not have to discuss the question if whether cars can render *additional* services. For the sake of the argument, we might admit that. Let us suppose that parked cars could render additional services when they are used—with or without the consent of their owners—by other people. What is at stake is the question of whether the same holds true for money. It is this question, however, that we have to answer in the negative. For the services that stem from the use of a certain quantity of money depend on money prices, and money prices depend on the use of the existing quantity of money. It is by the use of idle money from demand deposits that money prices will unavoidably be enhanced. Thus, not only the owners of the demand deposits that were lent out but *all* owners of money, be it in the form of cash or in the form of money substitutes, will find the purchasing power of their money balances reduced. The use of idle money hoards is paid by the owners of these hoards and all other money owners. No other outcome is conceivable because the mere intensification of the use of money does not imply the intensification of the production of goods. The use of money and of its substitutes is always costly. If it is not the holder who is charged with these costs it must be someone else.

It is true that all new technical devices to economize the use of money have resulted in a tendency to higher money prices. The same will inevitably hold true for all future improvements of this kind and thus they have the same effect as a further reduction of the reserve ratio of money substitutes. But does this prove that there is no other difference between them which is crucial? Does it not simply represent another proof of the virtual irrelevance of the money price level?

There is no need to enter into the discussion about the importance of money prices. We rather have to emphasize the difference between two origins of a more intense use of money. One is entrepreneurial innovation and the other is the reduction of the reserve ratio. The great innovations of banking history such as banknotes, checking accounts, clearing houses, and credit cards have brought advantages for all market participants. They economized factors of production that the banks formerly had employed in the service of their customers. Less money had to be spent in the production of these banking services so more could be spent for other market transactions. The same

effect was caused by all innovations of non-bankers permitting them to keep smaller money balances. New techniques for business accountancy, for the planning of market transactions, and for business forecasts fall in this category.

On the other hand, a smaller reserve fraction merely means inflation, viz., an extension of the quantity of money in the larger sense. Yet, as no factor of employment has been reduced, no additional production can result from it. There can be no doubt that the first mentioned innovations are not inflationary, viz., increase the quantity of money in the larger sense. They lead to a more intense use of the existing quantity of money or, in other terms, enhance the velocity of circulation. This is what causes an increase of money prices on the market. The profits derived from productive innovations are a reward for an achievement that is useful for all market participants. By contrast, profits derived from inflationary reductions of the reserve fraction simply represent fraud. No use of a factor of production has been reduced. The banker gains something which is taken from other people.

Financial Intermediation Under 100 Percent Reserve Banking

Implicit in all arguments against banking on a 100 percent gold standard is the conviction that this system would gravely impede financial intermediation. In the judgment of moderate free bankers, such as Larry Sechrest,

First, with 100 percent reserves, banks cannot make loans from their deposits. Every dollar deposited must be held, ready to be redeemed, at all times. This severely restricts the available credit in the society. One could make a very plausible argument that much of the real economic growth that has occurred would have been impossible in a world of 100 percent reserve banking. Furthermore, banks resent such an imposition.¹⁴

This expression fatally recalls the inflationist real-bills doctrine. Therefore, some free bankers advance a more radical argument. They say that 100 percent reserve banking makes financial intermediation impossible. This is, however, untrue; even if credit were *restricted* by 100 percent reserve banking (which is not the case) there would still be credit in this system. To be sure

¹⁴Larry Sechrest, *Free Banking: Theory, History, and a Laissez-faire Model* (Westport, Conn.: Quorum Books, 1993), p. 66.

there would be no intermediation of demand deposits because the disposition of them would entirely be reserved to the depositors. Yet even in a system of fractional reserve banking the intermediation of demand deposits represents but a part of the whole intermediation business. By far the biggest part of the money lent by the banks has been temporarily given into their *exclusive* disposition. Therefore, the pretension that under 100 percent reserves "banks would be unable to lend"¹⁵ is untenable. One does not have to quarrel about whether the word credit, or the expression "true financial intermediation,"¹⁶ should be reserved for lending operations on the basis of demand deposits (fiduciary money issues). The only relevant issue is whether there is still financial intermediation under 100 percent reserve banking. This cannot be contested.

*The Alleged Dangers of Money Shortages
and of Changes of the Price Level*

The case for fractional reserve banking is entirely based on the age-old equivalence idea. According to this idea each commodity *corresponds* to some quantity of money. The exchange of a bigger quantity of goods on the market is only possible if the quantity of money increases, too. Devastating results could result from a "fear of currency shortage."¹⁷ The prospect of a rigidly limited quantity of money, say the free bankers, could drive the market participants to enhance their money holdings. This would precipitate a real money shortage even if there had been none in the beginning. It is obvious that this argument not only applies to gold but to all other goods as well. The quantities of shoes, bread, and bottles of milk are no less limited than the quantity of money. Nevertheless there are no general fears of shoe shortages. Neither is it necessary to invent special devices to prevent them.

However, this is not the whole of the picture painted by the free bankers. Fractional reserve banking is needed because metallic money cannot increase in a degree sufficient to permit all market exchanges. It is needed to provide "transfer credit."¹⁸

¹⁵Dowd, *The State and the Monetary System*, p. 25.

¹⁶Steven Horwitz, *Monetary Evolution, Free Banking, and Economic Order* (Boulder, Colo.: Westview Press, 1992), p. 115.

¹⁷Selgin and White, "How Would the Invisible Hand Handle Money?": 1726.

¹⁸See Selgin, *The Theory of Free Banking*, pp. 60ff. Transfer credit is "credit granted by banks in recognition of people's desire to abstain from spending by holding balances of inside money" (p. 60). This of course, is no definition. Every use of money implies the holding of it.

Transfer credit, they say, is necessary to prevent disruptive consequences that otherwise would follow. Principally, they say, each increase in the demand for money would cause unfavorable money shortages for it withdraws money from circulation:

Consider what happens when the supply of money fails to increase in response to an increase in demand for money on the part of wage earners. The wage earners attempt to increase their money balances by reducing their purchases of consumer products, but there is no offsetting increase in demand due to increased, bank-financed expenditures. Therefore, the reduction in demand leads to an accumulation of goods inventories. Businesses' nominal revenues become deficient relative to outlays for factors of production—the difference representing the money that wage earners have withdrawn from circulation. Since each entrepreneur notices a deficiency of his own revenues only, without perceiving it as a mere prelude to a general fall in prices *including factor prices*, he views the falling off of demand for his product as symbolizing (at least in part) a lasting decline in the profitability of his particular line of business. If all entrepreneurs reduce their output, the result is a general downturn, which ends only once a general fall in prices raises the real supply of money to its desired level.

As was said previously, such a crisis can occur only if banks fail to respond adequately to a general increase in the demand for inside money.¹⁹

This reasoning is central for the doctrine of fractional reserve banking. There are several fallacies in it. Even if it *were* correct, there would be no way to explain why prices can ever fall. Yet this is what the free bankers consider as the long-run outcome of a growing economy.

Most importantly, the above statement is but half of the story. The other half is the story of wages.²⁰ If an entrepreneur faces reduced demand for his products, he sooner or later has to pay lower wage rates. Now, if a worker accepts this, the output of this enterprise is not reduced. It remains profitable and can stay in business. If a worker does not accept the lower wage rate, he will

¹⁹Ibid., p. 55.

²⁰See the following, for example, W. H. Hutt, *The Keynesian Episode* (Indianapolis: Liberty Press, 1979), pp. 51ff.

sooner or later have to look for another employment, thus reducing wage rates elsewhere. Other businesses that hitherto were submarginal become profitable. In either case there can be no general reduction of output. Wage earners will have lower nominal incomes.

Yet, all other prices are lower, too. Thus their real incomes have not declined. Even if all wage earners decided suddenly to bury their banknotes in pillows or burn them, there would be no need and no possibility to adequately increase the supply of banknotes. To be sure, there would be some disruptive elements in this scenario. Yet, it is not the falling prices that are disruptive, but the general folly that drives *all* market participants to burn their banknotes. Falling prices are nothing but a symptom of an adjustment taking place. Preventing prices from falling amounts to curing the symptom and leaving the disease untouched. General output or aggregate demand can neither be conserved nor enhanced by increasing the money supply. The free bankers have not yet learned the lesson of Say's Law.

Some of the free bankers have filled volumes with studies on the history of banking and, still, are blind to the most important issues of money and banking. With the opponents of gold, they share the conviction that money is only optimal if it is flexibly supplied according to the changing scope of its employment or of needs. There can be no greater fallacy in monetary theory. No issue is more fundamental. Therefore the insight of classical economics has to be repeated again: *The quantity of money is irrelevant for the benefits derived from its use, in the long run and in the short run.* There is no need and no possibility to adjust it according to its changing employment. There is no need because the adjustment can be achieved by a change of prices and particularly a change in wages. But most importantly, there is *no possibility of an "adjustment" of the quantity of money.* Even if one could succeed in replacing the money exactly there where it is "withheld" (which would be close to a miracle) one would need an angel to inform each market participant about the structure of prices that is now likely to be created.²¹

There is no meaningful way to define a demand for money that could exceed the supply of money (the existing money stock). An

²¹See the analogous remarks of Mises concerning the possibility of stabilizing the value of money in his *Theory of Money and Credit* (Irvington-on-Hudson, N.Y.: Foundation for Economic Education, 1971), pp. 123–31.

ever increasing quantity of commodities and services can be sold on the market with one and the same supply of money.²² The argument can be reduced to the conviction that “if prices go up we need more money to sell all the goods.” However, the mere fact that one price or even all prices did already go up with the use of *unchanged* money stock proves that the latter does not have to be increased.

Every existing good can be exchanged on the market. The crucial question is whether the selling prices render its production profitable or not. Unprofitable investments prevent more urgent productions. This is why they are unprofitable. If transfer credit is given to make them profitable, the satisfaction of more urgent wants is artificially prevented.

On Some Alleged Advantages of Fractional Reserve Banking

Is Fractional Reserve Banking the Necessary Outcome of an Unhampered Market?

Fractional reserve banking has been represented as the necessary outcome of an unhampered market.²³ If this were true it would be a strong support for the claims of the free bankers. For whatever was undertaken by any other agent to establish a different system, there would always prevail a tendency toward fractional reserve banking.

It is most convenient to clarify the nature of this argument because some of its advocates believe it to be “causal-genetic,” an expression which Schumpeter used to distinguish Austrian economics from other approaches. An abstract summary of it could run like this: First one points at a problem of action, for example, the problem that “double coincidence” in a barter economy is very rare so that most people willing to sell the goods which they do not need personally would not be able to exchange on the market. Then one shows that this problem can be solved by a certain behavior that was until now unknown.

In our example this would be the invention of indirect exchange: using a medium of exchange, people are no longer dependent on the

²²For example David Ricardo, *The High Price of Bullion*, Works 3 (London: John Murray, 1811), p. 73.

²³G. Selgin and L. H. White, “The Evolution of a Free Banking System,” in Selgin, *The Theory of Free Banking*, chap. 2, and in White, *Competition and Currency*, chap. 12; also Dowd, *Laissez-faire Banking*, pp. 26–33, 59–68.

improbable case of "double coincidence." With this solution of the old problem, however, new problems are arising by which no one has been previously confronted. One of these new problems is linked to economic calculation. Economic calculation cannot be successfully executed without the use of a medium of exchange. The calculated planning of action reaches as far as the price system that is constituted by the use of the particular medium of exchange.

Comparing the prices expressed in a medium of exchange that will probably be realized on the market permits us to evaluate the probable success of even the most complex projects with a hitherto unachievable precision. On the other hand, one of the problems that is linked to economic calculation is the homogeneity of the medium of exchange. If the different items of the total quantity of a medium of exchange are not of a sufficiently homogeneous quality, no calculation can be successfully put into action. A new solution is required to solve the new problem. As should be clear by now, whatever solution will be applied, it will be at the base of other problems that need other solutions, and so forth.

This essay is not concerned with questions of method. Yet, fractional reserve banking is recommended because it allegedly represents the necessary outcome of the operation of the unhampered market which in turn can allegedly be deduced by the above method. The latter, therefore, needs some consideration.

It is very important to realize that in economics there are two types of arguments of which one could say that they feature evolutions. One argument is purely logical. This is, for example, the case for the necessary evolution that we call the business cycle.²⁴ A business cycle takes place after the injection of additional quantities of money through the credit system. Whatever the market participants will do in such a situation, they cannot prevent the additional quantity of money from exercising an additional effect on the price structure. After the injection of new money, many projects seem to be (are calculated to be) profitable that did not seem so before. Projects are started which would not have been started without the injection of new money. Indeed, saying that additional quantities are *injected* into the market through the credit system means *that* they are borrowed. Then the price (the interest rate) must be lower than it would otherwise have been. As this interest

²⁴See Ludwig von Mises, *Human Action* (Chicago: Henry Regnery, 1949), pp. 571ff; and Murray N. Rothbard, *Man, Economy, and State* (Los Angeles: Nash, 1962), pp. 850ff.

rate *cannot* last but *must* go up it represents an *additional* source of error for market participants.²⁵

The alleged deduction in the theory of fractional reserve banking is not of this kind. Essentially it is a historical account, even if it does not feature *our* history. The necessity of the evolution it describes is only an empirical, that is *ex post*, necessity. Of course, we know that in all types of barter societies, the problem of double coincidence exists. We also know that man has discovered indirect exchange. Yet, this invention, as every other invention as well, was in no way inevitable. In all places and at all times action is confronted with problems. Only *ex post* are we often capable of saying if and in how far a certain behavior represents a solution and to what. This is what can be achieved with causal-genetic approaches to the evolution of monetary institutions. And this is *all* they can achieve. They are a kind of very abstract history of monetary institutions, a history of what would have happened if government had not intervened in a misconceived manner.

Now, let us disregard the question of whether it is appropriate or not in this context to neglect government interventions. The only question we have to face is whether there are any problems of action that, *by their pure existence*, imply that a certain solution—indirect exchange, clearing houses, fractional reserve banking, etc.—be invented. Does an empty refrigerator imply that it will be filled? Did gravitation create the relativity-theory to let man fly to the moon? Did the weakness of our eyes invent X-rays to see through a patient's skin? Did idle gold hoards lead to fractional reserve banking? If this were the case, the causal-genetic process would be a sound line of reasoning. Yet, it is not the case. It is undisputed that all the institutions that are allegedly *deduced* from problems represent, in some manner at least, solutions to existing problems. However, this is no proof that other outcomes would not be possible. Fractional reserve banking

²⁵By the way, it is not true that a reduction of the inflated money stock is the cause of crises. It is already the widespread *injection* of additional money via the credit system which implies that money calculation has to fail on a wide scale. Once the failure becomes obvious in the form of a crisis, a reduction of the money stock has the effect of accelerating recovery. Hence, one cannot claim that "Austrian economists such as Rothbard *add* that it was the Fed's expansionary policies during the 1920s that precipitated the crisis, which was exacerbated by the Fed's later inaction" Steven Horwitz, *Monetary Evolution, Free Banking, and Economic Order*, p. 182 [emph. added]. This claim presupposes that monetary expansion is but a detail in the picture of business cycles and that Rothbard shared the view that it is the drop of the money stock which creates crisis. Neither is true.

could be but a part of all the possible solutions. To state a problem and then present one (now known) solution is no proof that the problem already *meant* this solution. If this implication cannot be demonstrated, the argument can never be general, that is, valid for the markets of all times and places. It then refers only to one particular outcome, not to all the outcomes that the unhampered market must take.

The approach championed by the free bankers contains no argument of the kind required to prove that an unhampered market leads to fractional reserve banking. It cannot be claimed in defense of the case for fractional reserves.

Does Fractional Reserve Banking Lead to Monetary Equilibrium?

Free bankers Kevin Dowd and Lawrence White say they do not defend the real-bills doctrine.²⁶ Even so, they have recognized the proximity between their tenets and this fallacious doctrine. Yet all their efforts to distinguish between the two have proved to be futile. There is no difference between a money substitute issued to give a real-bill credit and a money substitute issued to give transfer credit.²⁷ Both are credits out of thin air, that is, no credits at all. Contrary to their pretensions, the free bankers are nothing but the modern advocates of the real-bills doctrine.

There is but one quite modern feature in their argument. It is the conviction that only fractional reserve banking leads to monetary equilibrium. The latter is supposed to be the state of affairs that prevails when "there is neither an excess demand for money nor an excess supply of it at the existing level of prices."²⁸ According to Selgin, the lending process in a fractional-reserve banking system equilibrates money supply and demand because:

Whenever a bank expands its liabilities in the process of making new loans and investments, it is the holders of the liabilities who are the ultimate lenders of credit, and what

²⁶For a vain attempt to prove the contrary, see, Dowd, *The State and the Monetary System*, p. 60ff.

²⁷In a brilliant analysis Fritz Machlup demonstrated that the time horizon for which a credit is given has nothing to do with the time horizon of its employment. It is thus illusory to believe that fiduciary issues would only finance transfers (*Börsenkredit, Industriekredit und Kapitalbildung* [Vienna, 1931], pp. 139, 179ff).

²⁸Selgin, *The Theory of Free Banking*, p. 54.

they lend are the real resources they could acquire if, instead of holding money, they spent it. When the expansion or contraction of bank liabilities proceeds in such a way as to be at all times in agreement with changing demands for inside money, the quantity of real capital funds supplied to borrowers by the banks is equal to the quantity voluntarily offered to the banks by the public . . . Thus a direct connection exists between the conditions for equilibrium in the market for balances of inside money and those for equilibrium in the market for loanable funds. An increase in the demand for money warrants an increase in bank loans and investment. A decrease in the demand for money warrants a reduction in bank loans and investments.²⁹

Therefore, fractional reserve banking avoids excess demand and supply of money because the issues of the banks are virtually irrelevant. It is only their customers who choose the appropriate money balances and thus the total quantity of money in use. Balances are held in consideration of the purchasing power of money, that is, the money prices prevailing on the market. "People who find themselves holding excess notes or deposits will get rid of them largely by depositing them in checking or savings accounts at their own bank, or by spending them away to persons who will deposit them."³⁰ Now, say the free bankers, money prices are exclusively determined by the value of outside money, for example the value of gold. *Money substitutes play no role in the formation of money prices.* The supply of bank money has no influence on the purchasing power of money. Money substitutes must necessarily have the same value as money itself because they are convertible into money. In the eyes of the free bankers, restrictions on the issues of banks would in no manner prevent changes of the price level. This is because the latter exclusively depends on the industrial demand for gold. The following gives a sample of formulations of this anchor theory³¹:

The public's demand to hold the demand liabilities (notes or demand deposits) of any particular bank is a definitely limited magnitude in nominal as well as real terms given that the purchasing

²⁹Ibid., p. 55.

³⁰White, *Competition and Currency*, p. 158.

³¹See also Horwitz, *Monetary Evolution, Free Banking, and Economic Order*, p. 120f; Dowd, *Laissez-faire Banking*, p. 65f.

power of notes and demand deposits is fixed by their redeemability for specie.³²

In the limit, with clearinghouse reserves of base money economized to zero and hand-to-hand currency entirely bank-issued, so that neither the banking-system nor the public holds any base money, the purchasing power of base money would depend entirely on nonmonetary demand for the substance comprising base money. Under a commodity standard the value of the unit of account (a standard unit of the base money commodity) would still be determinate. Under a fiat standard, the value of the unit of account would go to zero (because there is no nonmonetary demand for fiat money), placing the system's viability in doubt.³³

. . . a modern competitive theory of money distinguishes between currency [taken as synonymous with high-powered money] and bank money. The stock of currency at any moment is fixed. That fixed stock of currency together with the demand for currency determines its value. Being convertible into currency, bank money or deposits must have the same value as currency. And given a price level determined by the supply of and the demand for currency, the banking system, without affecting the price level, supplies whatever quantity of deposits the public wants to hold.³⁴

This is sheer fallacy. Money prices on the market are the prices paid in form of money *and* in form of money substitutes. It is this *total* sum (the money supply in the larger sense³⁵) which determines the height of money prices. Yet, fractional reserve banking means that there are fiduciary issues of money substitutes. Then the money supply in the larger sense must be bigger than the money supply in the narrower sense (of money itself). In this case, money prices must be higher than the prices that could be formed with the use of money only.

Suppose I get an additional fiduciary banknote of one ounce of silver sterling from my banker. This banknote permits me to

³²White, *Competition and Currency*, p. 158.

³³Selgin and White, "How Would the Invisible Hand Handle Money?": 1724-5.

³⁴Glasner, *Free Banking and Monetary Reform*, p. 174f.

³⁵This means the quantity of money (money in the narrower sense) plus the quantity of fiduciary money substitutes. The latter always equals zero in a 100 percent reserve system. The money supply in the larger sense, then, always equals the money supply in the narrower sense. Only in a system of fractional reserves can these two aggregates deviate from one another.

satisfy wants that hitherto were not sufficiently important to be considered (they were submarginal). If I pay for a meal in a restaurant with this banknote then, without any doubt, I have affected market prices. In fact, by my very purchase I have formed market prices. These prices would have never come into being without the additional issue of a banknote. Selling the meal to other persons would have required a price reduction to attract submarginal consumers. Thus, without the issue of the additional banknote, the money price of a meal would necessarily have been lower. True, the free bankers might say, but if you only *hold* your money, then no new prices are formed on the market. You then have exercised no influence on market prices. But money is always demanded to be spent. Even if an additional fiduciary money substitute is spent only one time it already has raised money prices on the market.

It is the principal shortcoming of the free bankers not to understand the principles of money-price formation.³⁶ They believe that changes in the purchasing power of money are a matter of the long run.³⁷ This is an error. Their entire conception of *how* those changes come about is futile. On grounds of their doctrine, one cannot even conceive of how changes in the purchasing power of money are *ever* brought about. However, the formation of market prices is definitely not a matter of the long run. Money prices are formed by the use of the supply of money in the larger sense. The larger this supply, the higher are the money prices. It is therefore impossible that relative money prices not be distorted or affected by a change in supply of fiduciary issues. *Each* modification of the supply of money in the larger sense affects money prices *with no delay of time*. Once this is conceded, the anchor theory collapses. The decisive influence that money has on its substitutes

³⁶Consequently, it is not surprising that some advocate the absurd idea that the crisis of the thirties had been the outcome of heavy variations of the value of gold (Glasner, *Free Banking and Money Reform*, p. 222ff). For a critique see the articles by Wiegand, Kemmerer, and North in *Gold Is Money*, Hans Sennholz, ed. (Westport, Conn.: Greenwood Press, 1975). Cause and effect are confused. The value of gold changed heavily because of big variations of the quantity of its substitutes. The same confusion prevails about the variations of the gold price of the 1980s. Gold went up because many market participants expected it to soon become money again. It went down when it became obvious that these expectations were premature. This was partly due to the views of experts who considered it as "a commodity whose purchasing power is subject to violent and erratic fluctuation" (White, *Competition and Currency*, p. 131).

³⁷[I]t takes time for changes in spending to influence prices in a general way" Selgin, *The Theory of Free Banking*, pp. 53f.

is by its quantity. The quantity of money determines the quantity of money substitutes that can be issued. This money supply in the larger sense, then, enters into the formation of money prices.

It is characteristic of the entire free-banking program to confuse this issue. They adhere to some mythical idea of price formation through convertibility.³⁸ And they tend to consider quantitative limitations on action as accidents to which the attainment of monetary equilibrium is unfortunately exposed. However, with the myth of the anchor falls the myth of monetary equilibrium and its complements, excess demand and excess supply of money. It is untenable that "short-run corrections in the real money supply require changes in the nominal quantity of money."³⁹ A change of the (nominal) supply of money can never be warranted "because it maintains monetary equilibrium."⁴⁰

One cannot avoid this conclusion, as Stephen Horwitz attempts to do, by merely redefining terms. Horwitz defines a neutral money as not distorting "the determination of relative prices when there are changes in its supply."⁴¹ It would be as meaningful to define the perfect human being as "someone whose mind is not limited by the category of causality."

Definitions are necessary. What is at stake, however, is not our capacity to *invent* definitions but whether the definition in question is useful or not. No definition can be useful that contradicts itself. Whatever names we choose to describe it, a "money that will not distort the determination of relative prices when there are changes in its supply" is a contradiction. Calling this impossibility *neutral money* means nothing else than that we give a name to something that we cannot even conceive of. Discussing the effects of neutral money is therefore as meaningful as the dissemination of accountancy methods in a socialist commonwealth.

It is frequently objected that the relevant quantity of money is indeterminate. From this, it is inferred that the formation of money prices cannot rely as heavily on the money supply as it has been pointed out above. What does this objection amount to? It amounts to saying that existing stocks are indeterminate. Of

³⁸Convertibility taken fallaciously in its larger, meaningless sense. See the section entitled "Money and Substitutes for Money" in a previous section in this article.

³⁹Selgin, *The Theory of Free Banking*, p. 54.

⁴⁰*Ibid.*

⁴¹Horwitz, *Monetary Evolution, Free Banking, and Economic Order*, p. 134.

course this is not true. The supply of a present good is always limited even if there is no one able to say exactly how much of this good exists. Otherwise it would not be a good. Thus, the stock of a medium of exchange is never indeterminate in any relevant manner. Money and its substitutes are no exception. Confusion about the money supply in the larger sense stems from conceptual confusion.⁴²

*Does Fractional Reserve
Banking Favor Investment?*

The spurious doctrine of the equivalence between money and real goods is not only used as a critique of 100 percent reserve banking. It also underlies attempts to prove the expediency of fractional reserves. Because the ultimate end of indirect exchange is always to buy some non-monetary goods, the use of money cannot have any value independent from the value of the latter.

Thus, say the advocates of fractional reserve banking, money is an entitlement to real goods. It *represents* the real funds for which it is intended to be exchanged. But, unfortunately, there need not always be equivalence of the amount of the loanable funds and the money in circulation. The latter may prove insufficient to buy all real savings. *Distortions* would be inevitable when the *real loanable funds* could not be borrowed because there is no corresponding circulating money to buy them. This is where fractional reserve banks step in. In the form of money substitutes they create the corresponding money that otherwise would be lacking. According to Horwitz:

Savers supply real loanable funds based on their endowments and intertemporal preferences. Banks serve as intermediaries to re-direct savings to investors via money creation. Depositors give banks custody of their funds, and banks create loans based on these deposits. The creation (supply) of money corresponds to a supply of funds for investment use by firms.⁴³

This is the essence of the free bankers' creed. In their eyes, only part of the whole money supply is relevant for the market

⁴²Unfortunately, such conceptual confusion prevails also in one of the most brilliant expositions of the problems of fractional reserve banking, see, F. A. Hayek, *Monetary Nationalism and International Stability* (London: Longmans, Green, 1937).

⁴³Horwitz, *Monetary Evolution, Free Banking, and Economic Order*, p. 135.

exchanges. Only the part in circulation constitutes a demand for real goods and services. The other part is money held—the proper demand for money. The owners of money held are lenders: “what they lend are the real resources they could acquire if, instead of holding money, they spent it.”⁴⁴ Because the proportions between money in circulation and money held can change there can be a difference between savings and investment. Suppose someone increases his money balance. Holding more money substitutes, he renounces his share of the goods to which the money entitles him. Now the money he holds no longer *circulates* on the market. He saves but nobody invests. What is more important, nobody *can* invest because the necessary medium of exchange has been withdrawn from the market. Accumulation of unsold goods inventories would be the inevitable consequence were it not for the beneficial intervention of fractional reserve banks. They create new money in circulation that will buy the idle goods inventories. Savings and investment are again in accord with each other.

It is not necessary to point out all the fallacies of the equivalence idea.⁴⁵ We only have to examine its basic tenet regarding investment. The free bankers think that there can be a difference between savings and investment. Yet there is no such difference. Savings and investment are always identical. They are merely two aspects of the same action, just as buying and selling are two aspects of the same market exchange. One cannot save without investing, nor is it possible to invest without saving at the same time. Thus, suppose that Jones sells a car against 50 ounces of gold that he intends to hold until his retirement age. Jones has invested in gold. Yet this means nothing else than that his savings are in gold, too. It is immaterial whether Jones keeps his gold in some worn socks or with his banker or someone else. No additional action of any bank is required to make savings and investment equal.

Now, suppose that Jones keeps his gold with a bank on a demand deposit. His banker thinks—because he has been instructed by some clever free banker—that in lending out these idle funds through the issue of a money substitute, he finances a corresponding investment. He gives two ounces to Smith who, in

⁴⁴Selgin, *The Theory of Free Banking*, p. 55.

⁴⁵Note that its application in the context of savings-investment is incompatible with its application to justify the “anchor theory.” However, as both are fallacious we do not have to dwell on inconsistencies between the tenets of the free bankers.

turn, buys a washing machine. By giving this idle money to Smith, does Jones create Smith's washing machine? Does he create gold? Does he create just one present good? Does he create something else than a demand deposit? If the answer is no—and there can be no doubt about that—how is he able to finance an additional investment project, that is, supply it with some present goods? He takes Jones's money to do that. Thus, *he not only takes Jones's savings but also his investment*. Such actions are commonly called robbery.

Our enlightened banker has financed Smith's investment project by robbing Jones. He has not achieved an economic miracle, at least no miracle that no other robber would be capable of. Of course, in our enlightened age, neither Smith nor Jones are aware of the nature of the blessings of fractional reserve banking. Smith eats the cake of Jones and of the other money owners while the latter think that they still have it. For it is not true that by "holding a bank liability, either deposits or currency under free banking, the possessor refrains from redeeming it for outside money."⁴⁶ Holders of demand liabilities are definitely *not* "granters of credit just as are holders of time liabilities."⁴⁷ The possessor believes that he can have both, benefit from the use of a money substitute *and* redemption whenever he wants. This is exactly why money substitutes under fractional reserve banking are so interesting to him. The banker (and some economists) may believe that there is just "a difference of degree and not a difference of substance" between credits given on a base of demand deposits and credits on a base of other credits. But there can be no doubt that not only *is* there a difference of substance but that this difference constitutes, in Murray N. Rothbard's terms, "the nub of the problem" of fractional reserve banking:

a claim—and banknotes or deposits are claims to money—does not involve the creditor's relinquishing any of the present good. On the contrary, the noteholder or depositholder still retains his money (the present good) because he has a claim to it, a warehouse receipt, which he can redeem at any time he desires. This is the nub of the problem, and this is why fractional reserve banking creates new money while other credit agencies do not—for warehouse receipts or claims to

⁴⁶Horwitz, *Monetary Evolution, Free Banking, and Economic Order*, p. 135.

⁴⁷Selgin, *The Theory of Free Banking*, p. 62.

money function on the market as equivalent to standard money itself.⁴⁸

If issuing fiduciary money increased “the supply of loanable funds and spurs further economic growth”⁴⁹ there would be, to be sure, no possibility to dispute some beneficial effects of fractional reserve banking. Then the need to redeem money substitutes must appear as an atavistic obstacle for banking. And so would the limitation of money itself. But if one can really imagine “politicians leveraging the Fed into generating short-term output increases to pump up the economy at election time,”⁵⁰ why do we not encourage our politicians to do that *all* the time? Why do we abstain from continually enforcing “temporary deviations of real output from its natural rate?”⁵¹

The answer is: because it is, *even in the short run*, impossible to generate output increases by printing money. Production capacities for future *and* present goods are always limited. If I convert my existing production facilities to the production of more present quantities, then quantities produced in the future will be reduced. If this were my intention then I would successfully increase output. I would err, by contrast, if I believed that I could have more quantities today without paying in the form of less quantities tomorrow. I cannot feel richer having many goods today when I know that I shall starve tomorrow. When I am convinced that it will rain tomorrow I will repair the roof of my house. I do not think a second of taking too long a sunbath to complete the repair today. The additional hour of sunbathing is, in any practically relevant sense, not more than the repair of the roof of my house. Forcing me to behave in another way, namely, to take a longer sunbath today, can in no conceivable manner be more valuable to me.

In quite the same way, it is impossible to provide more loanable funds through fractional reserve banking. Gold held in demand deposits must be considered as savings. This, however, does not mean that its holders renounce their disposition of it. Fractional reserve banks may be necessary—as is central banking,

⁴⁸Murray Rothbard, “The Case for a 100 Percent Gold Dollar,” in *In Search of A Monetary Constitution*, Leland B. Yeager, ed. (Cambridge: Harvard University Press, 1962), pp. 115–6. Reprinted in book form by the Ludwig von Mises Institute, Auburn, Alabama in 1991.

⁴⁹Horwitz, *Monetary Evolution, Free Banking, and Economic Order*, p. 115.

⁵⁰*Ibid.*, p. 131.

⁵¹Selgin and White, “How Would the Invisible Hand Handle Money?": 1725 n.

too—because it “would make certain lending opportunities profitable that would not otherwise be worthwhile.”⁵² So is a robber necessary to make loans to those who would not otherwise get them. No bank can procure more loanable funds than the public is willing to place at its disposal. The only thing they can do is to *deceive* their customers about the quantities of factors of production that are available.

Printing banknotes and creating new deposit accounts is not the cause of cars assembled, bridges constructed and children educated. Everyone inclined to ignore this will sooner or later be told better by the course of events. A bank always operates as an intermediary of *already existing* funds. It does not create them. Issuing additional quantities of fiduciary banknotes and demand deposits does not increase the quantity of the goods that can be bought with the new fiduciary money. Hence, inflation cannot represent an increase in output. Only if the receivers of higher nominal incomes *believe* that they can have both more goods today *and* more goods tomorrow is the increased quantity of present goods more in their eyes.

Yet this is a blatant error that only becomes apparent at a later stage of the inflation-induced evolution. Those who believed in the blessings of inflation or who ignored the latter altogether will find that the longer sunbaths of yesterday have to be paid for by a wet dining room today. Inflation-created output increases are a contradiction in terms. Not only do they fail to encourage investment, they positively impede it because they cannot but lead to error, that is, to the destruction of investment. There is no difference between fractional reserve banking and government intervention in financial markets. Both “*divert* savings from more to less productive channels.”⁵³

The free bankers are inspired by a spurious problem. It is therefore that their doctrines are as unsatisfying as those of their predecessors. During almost the whole of our century, economists were in search of the causes and consequences of deviations

⁵²Dowd, *Laissez-faire Banking*, p. 48. This is precisely the argument of the central bankers. Goodhart, for example, claims that central banks are necessary “to support the residual, risky, ‘true’, banking institutions, which were undertaking the necessary function of making loans to borrowers who could not otherwise sell their own equity and debt in extant financial markets” (“Are Central Banks Necessary?,” *Unregulated Banking: Chaos or Order?*, Forrest Capie and Geoffrey Wood, eds. (London and New York: St. Martins Press, 1989), p. 18.

⁵³Murray N. Rothbard, *Power and Market*, 2nd ed. (Kansas City: Sheed Andrews and McMeel, 1977), p. 186.

between savings and investment. Nearly all of them overlooked the disposition issue. (Probably they tried to avoid it because it would have led them too near to the concept of ownership; which was deemed unscientific.) So they tried to explain the recurrent crises of capitalism with the wrong tool. Business cycles are a matter of systematic error. Yet, this error refers to the disposition of goods, not to differences between savings and investment. Their unawareness of the disposition issue leads the free bankers to misconceive the argument of Rothbard in support of 100 percent reserve banking. His claim that fractional reserve banking is fraudulent⁵⁴ is in their eyes "more jurisprudential than economic."⁵⁵ They are certainly right that "nothing in a free banking system prevents an individual who desires 100 percent reserve banking from explicitly contracting for it."⁵⁶ Yet nothing in the world prevents people from being foolish. Rothbard's view that banknotes are the legal equivalent of warehouse receipts is *not* "based on what he thinks legal practice *ought* to be."⁵⁷ Rather it is the other way round. Legal practice ought to acknowledge that banknotes *are* substitutes for money and that it is impossible that two persons dispose of the same good at the same time.

*Does Fractional Reserve Banking Convey
a Superior Kind of Knowledge?*

The fundamental economic fallacy of all brands of socialism is the idea that money is not needed for the calculated planning of action. Unfortunately, there is a corresponding fallacy of just the opposite nature, namely, that the use of money provides *something more* than the indispensable instrument of the calculation of action. This conviction is manifest in the naive attempt to create goods by an increase of the quantity of money. It is also apparent in the attempts to attach a special dignity to money because it allegedly conveys a superior kind of knowledge. Recently the conviction that monetary exchange is a social communication process has found an advocate among the free bankers:

Both language and money are ways of extending our perceptual apparatuses beyond the immediate; the difference lies in to what each allows us access. The advantage of a monetarily extended

⁵⁴Rothbard, "The Case for a 100 Percent Gold Dollar," pp. 114f.

⁵⁵White, *Competition and Currency*, p. 156.

⁵⁶*Ibid.*, p. 157.

⁵⁷*Ibid.*, p. 156.

language over language alone (and why the modern socioeconomic order is equally dependent on money, as it is on language, for its emergence and evolution) is that money allows us to utilize not only the articulate knowledge of others but, more important, their knowledge that cannot be put into language.

He then theorizes what kind of information money does convey:

language and money . . . *constitute* the way in which we express [mental] constructs and preferences. Just as we cannot help but think in terms of the words that language provides us, we cannot help but act in the market in terms of the money prices of what we want to exchange. As difficult as it is to communicate thoughts outside of language, so it is difficult to express market-relevant wants outside of monetary exchange.⁵⁸

There is no doubt that money prices constitute an expression of our preferences. However, this is not the point. The point is that they are but *one* expression of preferences and that the latter are revealed in *any* prices, not only in money prices. Yet, if our preferences are revealed by all market prices then it is impossible to claim a particular ability of money to convey them.

But there are still other, more general flaws in the superior-knowledge theory of money: Money is scarce, language is not. The use of money *implies* social cooperation, the use of language is a unilateral act that does not imply cooperation. The *success* of the use of money is based on a fundamental disagreement about the meaning (more narrowly: the value) of money. As with every market exchange, it presupposes only the knowledge *that* the intended act is profitable (more useful than any other action), not *why* it is so. Market exchange rates convey no knowledge apart from the valuations which made cooperation possible. The use of money permits diverging interpretations of the underlying objective conditions of action. This is of no importance for the success of a market exchange. *Every* use of money, by its mere existence, proves that cooperation is possible even if one partner in the exchange is fundamentally erring. By contrast, the success of the use of language is based on a sufficiently similar interpretation of special objects (words and other symbols). Without an agreement upon their meaning *no* success would be conceivable. The use of a language is impossible without the tacit conviction that the

⁵⁸Horwitz, *Monetary Evolution, Free Banking, and Economic Order*, p. 97.

objects of the discourse are perceived (interpreted) in the same way.

The success of trade and money and its importance for humanity is based on the fact that they do not presuppose any agreement between cooperating individuals about the interpretation of their environment. Money and trade rely upon the extreme opposite foundation, that is, diverging attitudes toward the value of objects. Therefore it is not true that "joint production processes require the communicative agreement that money permits."⁵⁹ The division of labor is certainly *facilitated* by language. Yet, language is but a tool to reduce the uncertainty linked to the interpretation of the intention of others; insofar, it resembles not only money but *all* means of action. It is to this wide analogy that Simmel refers in his *Philosophy of Money*. Such an analogy has limits:

The point of departure for the analogy between money and language is to recognize that both mediate social processes; money is the "medium of exchange" for Menger and many others; language is the "medium of experience" for Gadamer and others in the Continental tradition . . . Language and money do not reveal some preexisting mental constructs or preferences, rather they constitute the way in which we express those constructs and preferences.⁶⁰

Simmel's authority, therefore, cannot be claimed in support of the idea that money is—as language—a means of communication.

The difference between 100 percent and fractional reserve banking is of course one of error and information. Yet fractional reserve banking is far from being superior in this regard. Rather the opposite. Under 100 percent reserve banking the factor use linked to the employment of money substitutes shows itself in the costs incurred by the bank customers. Under fractional reserve banking just the opposite holds true each time additional quantities of fiduciary money are issued. The bank customer receiving

⁵⁹Ibid., p. 100.

⁶⁰It seems to be the intention of discussing Simmel's work at length to prepare the ground for a communication theory of money (*ibid.*, pp. 91ff). The same reproach must be made for citing Mises's ideas on the importance of language from his *Nation, State, and Economy* (New York: New York University Press, 1983). Indeed, these belong to the few ideas Mises considerably revised later on (*Omnipotent Government* [New Haven, Conn.: Yale University Press, 1944]). It is impossible to claim his authority in support of the tenet that "ideas do not exist extralinguistically" (Horwitz, *Monetary Evolution, Free Banking, and Economic Order*, p. 186).

an additionally issued banknote or demand deposit at (necessarily) too low a price believes this price to be the costs of the credit.

In fact, this is not the case; the rest of the costs must be paid by the other money owners in form of lower purchasing power. The customer receiving interest payments for his money deposited in a demand balance believes him receives a free lunch. In fact, they do not do so for their deposit with a bank makes fiduciary issues possible and thus leads to a decrease of the purchasing power of their money. Additionally, they are erring about the quantity of money they can dispose of. However, only in times of liquidity crises do those errors on a wide scale become obvious.⁶¹ Thus it is precisely under a regime of fractional reserves that the market participants are systematically *misinformed* about the quantities of goods they can dispose of. It is also unlikely that, under fractional reserve banking, "reserve holdings would indeed fluctuate to reflect the trust that the public holds in a bank's liabilities and the confidence the bank has in its assets," as Horwitz believes.⁶² If this interpretation was common in the market then even bad banks—and *especially* bad banks—would do their utmost to operate on a low reserve ratio.

The breakdown of any system of fractional reserves represents only the cluster of failure that was already implied in the cluster of erroneous assumptions concerning the quantity of disposable goods. Insofar as there are striking parallels to the issue of gold versus fiat money, the latter has traditionally been defended with reference to the smaller resource consumption that it would allegedly imply. Yet, at the end of this century, marked by fiat money regimes all over the world, even the most ardent of its champions admit that this was an illusion.⁶³

The Necessary Failure of Fractional Reserve Banking

The Two Sources of Business Failure Implied in Fractional Reserve Banking

The free bankers think that fractional reserve banking can, in principle, last forever. They believe that it does not bear in itself the source of its destruction. They are convinced that its pure existence does not imply its decline. They are wrong on each one of these contentions.

⁶¹See Machlup, *Börsenkredit, Industriekredit und Kapitalbildung*, pp. 143ff.

⁶²Horwitz, *Monetary Evolution, Free Banking, and Economic Order*, p. 146 n. 46.

⁶³Milton Friedman, "The Resource Cost of Irredeemable Paper Money," *Journal of Political Economy* (1986).

Some critics of fractional reserve banking think that the root of the free bankers' fallacies is that they maintain that the holding of money constitutes savings. Yet, as it has already been stated above: one cannot save without investing, nor is it possible to invest without saving at the same time. This refers to *all* goods and, thus, to money. The terms savings and investment (or better: savings-investment) refer to *all* actions. From the point of view of the acting person each means which he disposes of—even for the shortest delay of time—is savings-investment. Like the category of means-ends, it is a categorical feature of action. The machines owned by a great industrialist are as much his savings-investment as the coffee cup that I own as a part of my savings-investment. So are cars, refrigerators, dentists' equipment, computers, and the fresh pizza served in a restaurant. And so is the money that one owns, too.⁶⁴

However, these considerations are only preliminary to what economics is all about, that is, the employment of *limited* means or goods. In a situation of unlimited means there could be no question of the success of action. All actions would be successful because of the abundance of means. Action could not be as we know it. Just the contrary is true for goods. Only a limited number, representing a limited range of actions requiring their

⁶⁴Here my opinion deviates from that of Rothbard. He says: "A man may allocate his money to consumption, investment, or addition to his cash balance." (*Man, Economy, and State*, p. 678, see also pp. 179f), thus suggesting that holding a cash balance is something different from savings-investment. Hans-Hermann Hoppe has given another expression to this view in claiming that time-preference and the utility of money are "two distinct and praxeologically unrelated factors" (*The Economics and Ethics of Private Property* [Boston: Kluwer, 1993], p. 119). To be sure, there is no causal connection between the demand for money and the interest rate. Increasing the quantity of money cannot reduce the interest rate because money's *real* value, its purchasing power, would be reduced accordingly. Yet this is no reason to overlook the unity in all *acts*, viz., in all valuation. Value is the preference accorded to an effect, and at least in the realm of action this can mean nothing but that the preferred effect should be achieved *before* alternative but less urgent effects. As action—and all other means—are always employed in the pursuit of some ends or effects acting man necessarily has to value (i.e., select) his means according to the urgency of the ends they are supposed to achieve. Thus, time-valuation is present in all actions. Actions with money can be no exception.

However, it should be noted that it is the holding of *money* which constitutes savings-investment. The holding of money substitutes, on the other hand, does not constitute savings-investment but *claims* on savings-investment in the form of money. It *cannot* give disposition of more than the existing stock of money—even if the owners of fiduciary money substitutes *believe* the contrary to be the case. See Böhm-Bawerk, "Rechte und Verhältnisse vom gueterwirtschaftlichen Standpunkt," in *Gesammelte Schriften* (Frankfurt/M.: Sauer & Auvermann, 1968).

use can be successfully executed. This number or range is larger when more goods can be employed, and it is smaller when fewer goods can be employed. Yet at each moment it *is* limited. The main problem of acting man consists of the identification or discovery of the most important actions which—under the prevailing limitation of goods—can successfully be carried out. *This problem can only find a solution if and insofar as acting man correctly identifies how many goods are at his disposal.* He must fail if he errs in his appreciation of the amount of goods he can dispose of. If an institutional arrangement implies that the acting persons under its influence err systematically, the arrangement itself can be said to lead to necessary failure. This is exactly the character of fractional reserve banking.

Errors are regrettable but there are no known means to avoid them. Error in business consists of a false appreciation of the future values of consumers. It will occur at all times and in all places, with or without 100 percent reserves in banking. In comparison to the totality of all actions, however, error is but a minor phenomenon. Given sufficient time, man learns how to deal successfully with all objects, be they means or obstacles to his ends. One hundred percent reserve banking is no object that implies particular difficulties for action. Errors, then, cannot be a characteristic feature of its use. It is quite another case with fractional reserve banking. Fiduciary issue of money substitutes as such is, of course, not the root of business error. There is no link whatever between the coverage of money substitutes and the correctness of anticipation. But in two respects it is always linked with error.

The first respect is that a situation in which reserves are fractional *can only be brought about* by the issue of fiduciary money, that is additional and therefore uncovered money substitutes. The important feature of this bank-created inflation is that it must lower the interest rates charged by the banks. Without lowering the interest rates, they would simply be unable to lend the additional money substitutes. Considering the lower interest rates, more projects are calculated to be profitable and launched. Yet, because the production capacities are limited, this must lead to a "cluster of business error,"⁶⁵ that is, to approximately synchronous failures of many market participants.

Dealing with a fractional reserve banking system, market participants are permanently misled. In their calculations more

⁶⁵Rothbard, *America's Great Depression*, p. 16.

projects appear to be profitable than can be successfully finished. The nature of fractional reserve banking is to cause this kind of failure on a wide scale. One cannot reproach the free bankers because they do not consider the lessons of Austrian business cycle theory. At least some of them do know that the issue of additional quantities of money substitutes leads market participants to make systematic errors. Yet general errors of market participants do not stem from a confusion "between nominal and relative price changes."⁶⁶ All prices are nominal. Without a denomination in some unit there would be no means with which to compare them.

The second aspect is contagion. Even the free bankers do not deny that under fractional reserves, the failure of one bank is likely "to trigger systemwide runs, implying large-scale demands to redeem banknotes and deposits for base money" leading to "widespread bank failures, undermining the payments system."⁶⁷ Nevertheless they do not believe this to be a devastating critique of their case. They argue that systemic crises in the past have not been a great threat in banking systems. In their eyes it was rather legal restrictions that played a crucial role. They believe that the evolution of an unhampered market would lead to institutions capable of avoiding runs and panics. Let us examine these arguments in turn.

Legal Restrictions and the Exogenous Causes of Bank Failure

Runs on the banking system, it is said, "were precipitated by events exogenous to the banking systems."⁶⁸ Now, what is an *exogenous event*? Imagine a blind person walking without orientation on the pavement. What if he falls in a hole and breaks his neck? One could blithely argue that the reason for his accident was

⁶⁶Selgin and White, "How Would the Invisible Hand Handle Money?": 1725.

⁶⁷Ibid.

⁶⁸Hasan Ifedhar and Gerald P. Dwyer Jr., "Bank Runs in the Free Banking Period," *Journal of Money, Credit, and Banking* 26 (1994): 284. Or, in the terms of A. J. Rolnick and W. E. Weber: "free bank failures were not caused by individuals establishing free banks with the same intention of having them fail. Rather, free banks failed when economic times turned bad and the value of their portfolio declined. Thus, the problems of banks during this period do not appear to have been different from those encountered by banks in other periods or by other types of industries" ("The Causes of Free Bank Failures," *Journal of Monetary Economics* 14 (1984): p. 290. See also Glasner, *Free Banking and Monetary Reform*, p. 203; Dowd, *Laissez-faire Banking*, pp. 218f; Horwitz, *Monetary Evolution, Free Banking, and Economic Order*, p. 152ff).

exogenous to his being blind. He did not break his neck because he was blind but because some unpredictable circumstances *from outside* disturbed his otherwise brilliant fate.

The futility of this reasoning is obvious. The concrete object that hurts the blind is as immaterial for the issue as the concrete reasons that lead too many market participants to redeem their money substitutes at the same time. It is also immaterial whether the concrete causes for failure are defined as exogenous to the activity in question. The only relevant aspect in this context is whether the activity in question implied already certain problems or not. In the above cases there can be no doubt about this point. To be blind *means* to be exposed to the increased danger of collision. To hold fractional reserves *means* to be exposed to the danger of having to redeem more than one is able to. The free bankers think they have refuted the reality of contagion crises. Yet, they have merely played with words. The contagion or domino effect is not refuted if one *defines* it conveniently. There is no use in building up a straw man called contagion crises and meaning a sudden breakdown of confidence in the banking system that comes out of heaven. There is no such thing as contagion in this sense. It is therefore not very surprising that such contagion never occurred in the past and that it will never be easy to find in practice.

At the bottom of the issue is the relationship between the psychology of the actor and the success of his actions. For economic analysis, the importance of a belief is not its mere existence but the conditions under which it leads to successful action, viz., under which it is right. Crises of confidence and bank runs can be interpreted in two ways. Either one has to suppose that the prevailing conditions justify them, that is, render them successful. Considering fractional reserve banking this is undoubtedly the case. Timely redemption always proves to be successful because it is impossible to satisfy all redemption demands. Or one has to suppose that the beliefs of the market participants are completely erroneous. Why, then, do they err all at the same time and in the same way? Are they guided to similar behavior by a somewhat mysterious herd instinct?

To these questions, the free bankers have provided no answers. To be sure, everybody necessarily acts according to what he *believes* is right. But it is quite a different question whether the convictions of the actor *are* right, that they too lead to successful action. Does the existence of an individual belief, or

confidence as such, imply that it be justified? Is a bank illiquid *because* the depositors believe it to be so? Implicitly, the free bankers answer these questions in the positive. For if contagion crises are “crises of confidence” and contagion effects are “confidence externalities,”⁶⁹ one is led to believe that the mere breakdown of confidence in banks leads to a breakdown of payments.

At least under 100 percent reserve banking this is obviously not the case. Here there could be crises of confidence, but there can be no crises of the payments system. This is because the monetary aggregate that is relevant for payments—the money supply in the larger sense, that is, money plus fiduciary issues—could not differ from the supply of money. Its quantity could only vary to the extent that the quantity of money varies. At least in the case of gold this is of no practical importance.

Whether the money at the disposal of the market participants is in the vaults of the banks or under grandmother’s pillow is, under 100 percent reserve banking, of no importance for this aggregate. Hence, contagion as suggested by the definition of some free bankers cannot be relevant for banking crises.

Why Fractional Reserve Banking Must Always Lead to Bank Runs

Under a fractional reserve banking system it is impossible to redeem all money substitutes. If a bank that has issued fiduciary money substitutes is forced to redeem more of its substitutes than money in its vaults, it has but one option to avoid bankruptcy. It has to borrow the money from other banks. The latter, thus, are confronted with the following dilemma: either they do lend the money, thereby depleting their vaults and becoming themselves illiquid, too. Or they refuse to lend the money and the former bank goes bankrupt. Then all of its customers—but *especially those who have not been able to redeem the substitutes in their possession*—will try to get some cash. They will search for money or money substitutes from the remaining banks. The deceived customers of the ruined bank need cash to maintain their daily transactions. They have no money to deposit, but they need money or money substitutes right now. The remaining banks, however, are not able to accept them as customers. Their stocks of money have not been increased. The issue of further fiduciary money would inevitably make them illiquid. But even this refusal to issue additional quantities of fiduciary money

⁶⁹Selgin and White, “How Would the Invisible Hand Handle Money?”: 1726.

cannot avoid their ruin. They are doomed, too. For if those deceived customers of the first bank cannot immediately dispose of cash they go bankrupt and thus cause liquidity problems for their creditors. Now the latter will have to ask the remaining banks for more cash, creating the old problem on a wider scale.

The contagion effect can only be stopped one way. There must be a bank that is able to satisfy all demands of redemption. However, if the failing market participant is big enough, contagion cannot be stopped at all, at least not if money production is as costly as in the case of gold.

One could ask whether it must necessarily come to a situation in which one single business failure proves to be too big to be borne by the banking system. The answer is: the principle of fractional reserve banking brings it about. Each banker can successfully operate on the hypothesis that in the case of a personal liquidity crisis, he can rely on his fellow bankers. It is in their interest to save him to avoid a bank run. Under such circumstances, the permanent expansion of fiduciary issues provides almost riskless profits. These are the objective conditions of fractional reserve banking. Even the less clever among the bankers will discover them after some years of business experience. Even the less alert among them will behave accordingly, that is, try to reduce their reserve ratio as far as possible. This expansion makes an individual failure ever more dangerous because the reserve ratio is further and further reduced.

It is the possibility of this expansion, however, which the free bankers deny. They claim that there are at least two obstacles for a bank willing to expand its fiduciary issue. The first obstacle to their note issues would be limited by the demand to hold them.⁷⁰ Banks are only capable of issuing according to the demand of their customers. All money substitutes that the latter did not really want to hold would quickly be returned to the bank and their redemption be demanded.

Undoubtedly it is true that all money substitutes held by the market participants are really wanted. Neither can it be disputed that each redemption of a money substitute means that its owner does no longer want to hold it. This, however, is completely beside the point. The only question is whether the demand for money—and, thus, for its substitutes—is limited or not. Yet it

⁷⁰Dowd, *The State and the Monetary System*, p. 62. See also the references given above in the section entitled "Does Fractional Reserve Banking Lead to Monetary Equilibrium."

certainly is not. Let us avoid any misunderstandings. Demand in the sense that the free bankers use this term means desire to dispose of money substitutes, it does not refer to "effective demand, to desires made effective by being 'demanded', i.e., by the fact that something else is 'supplied' for it."⁷¹ It is the very intention of the free bankers to put liquidity at the disposal of market participants without forcing them to supply it. Considering the demand for money in this sense one has always to remember that money is a *present* good. It can be used now. No present good is available in a quantity that would satisfy *all* demands. This is precisely why it is a good. Hence, there is always demand for some more money to secure hitherto less important (submarginal) satisfactions. It is correct that under fractional reserve banking "market forces compel banks to issue more money, when, at given prices, more of it is demanded by the public."⁷² But that demand is unlimited.⁷³ It therefore cannot limit the issues of fiduciary money.

However, the free bankers might say that the expansion of fiduciary money substitutes encounters still a second obstacle that will limit it. That is any expansion increases the risk of depletion of the money stock of the bank. True, but how does our banker know how much he can increase without going bankrupt? There certainly *is* some point beyond which his costs increase "faster than revenue, and so expansion beyond that point is unprofitable."⁷⁴ Yet, it is not the *existence* of such a point that is the problem, *it is the ignorance of its exact location*. No banker knows and can know exactly in advance what amounts of issues are still profitable and which prove to be ruinous. There is but one means to find it out: trial and error. This is, to be sure, the foremost principle of all action. But *in all other businesses than fractional reserve banking saving a competitor is no condition of one's own success* because individual failures (and follies) do not systematically lead to the breakdown of the whole industry. Fractional reserve banking is different. The reserves of the bigger banks may suffice to ignore bankruptcies of some minor competitors.

⁷¹Rothbard, *Man, Economy, and State*, p. 677.

⁷²Selgin and White, "How Would the Invisible Hand Handle Money?": 1725.

⁷³It is unlimited without regard to the prevailing money prices on the market. The latter, however, rise every time the quantity of fiduciary money substitutes is enhanced. They must necessarily be higher than they otherwise would have been. The circumstance, too, leads to higher demands for holding money.

⁷⁴White, *Competition and Currency*, p. 25, Cf. also Selgin, *The Theory of Free Banking*, p. 46.

Liquidity problems of big competitors, however, cannot be ignored. Every banker knows this. Every banker knows that it is in the interest of his fellow bankers to save him. Hence, he has every reason to be audacious in the exploration of that point beyond which the expansion of his fiduciary issues is unprofitable. And at least the alert customers of the banks do know this, too. They will always be very alert for news indicating probable bank insolvency. Thus they will quickly redeem their money substitutes to protect themselves. Taking these precautions they behave in no conceivable manner "contrary to the theory that depositors stage runs simply out of fear that others might run."⁷⁵

It is of no relevance that the market participants have less *confidence* in their business partners, be it banks or others. It is not important *where* the chain of failures sets in—in a bank or in some exogenous institution. All that is needed is that the error be sufficiently big to cause a sufficiently big bank to fail. Then a succession of failures cannot be avoided. Fractional reserve banking is frequently seen as a kind of multiplier of reserves. In fact, it is a multiplier of error. Fractional reserve banking is an iron chain that links the errors of one or a few market participants with the errors of all the others. Under 100 percent reserve banking, too, there may be some banks that engage in lending operations based on maturity transformation. This, however, is no characteristic feature of 100 percent reserve banking. But it is the essence of fractional reserve banking. Here *all* the banks by the nature of their operations are exposed to the risk of having to redeem claims of others without yet being entitled to demand the redemption of their claims.

Liquidity Crises in the Past

Relying on past events can often be helpful to illustrate political and theoretical issues. However, it can provide no evidence. Even if no failure of fractional reserve banking had occurred in the past this would be no proof that sooner or later it will not have this consequence. Therefore, two notes on this subject will have to suffice.

A central problem of the study of history refers to the *evaluation* of events. There are free bankers, for example, who consider three suspensions of payments in about 50 years time to be not much.⁷⁶ From the point of view of an enlightened economist this

⁷⁵Selgin and White, "How Would the Invisible Hand Handle Money?": 1726.

⁷⁶*Ibid.*, p. 1726. They note that *only three* out of six major panics in the National Banking era involved suspensions of payments.

may be true. The point of view is different for someone who lost all or some of his wealth in one of these three panics. He suffers from an act of deception. He is ruined because his banker committed—willingly or not—fraud on him.

The free bankers have accorded much attention to the relative success—absence of any major crises—of the Scottish-fractional-reserve banking system of the first half of the eighteenth century. The critics of fractional reserve banking have pointed to the dependence of the Scottish banks on the financial city of London. The latter in turn depended entirely on the Bank of England. Thus, Scottish free banking was not free at all, but a remote part of the English central banking system.⁷⁷ The free bankers deny this. In their eyes the “Scottish banks did buy and sell assets in the London financial market, but did not hold deposits at the Bank of England nor, it seems, any significant quantity of its notes. Nor did the Bank of England make last-resort loans to the Scottish banks.”⁷⁸

Yet it is immaterial whether the Bank of England was *directly* involved in securing money for the Scottish banking system. In times of trouble the Scottish banks could always rely on credits from London banks. The huge London market could always provide money if sufficient interest was paid. Thus it is because they resorted *indirectly* to issues of the Bank of England that the Scottish banks depended on the latter as well.

Contractual Remedies I:

Option Clauses, Equity Claims, and Monetary Disintegration

The most striking contradiction in the free bankers' program is their grudging confession that it is unpracticable. No free banker disputes that the suspension of payments is the ultimate recourse of fractional reserve banks.⁷⁹ Yet, redeeming its money substitutes is no generous favor that a bank renders to its customers. Redemption cannot be suspended like granting credit. The inability to redeem is what constitutes bankruptcy. In *all* businesses it is the inability to pay money owed that constitutes bankruptcy. The free bankers, by contrast, believe that

⁷⁷See Murray N. Rothbard, “The Myth of Free Banking in Scotland,” *Review of Austrian Economics* 2 (1987): 229–45. See also Charles Goodhart, *The Evolution of Central Banks* (Cambridge, Mass.: MIT Press, 1988), p. 51f.

⁷⁸Selgin and White, “How Would the Invisible Hand Handle Money?": 1732. See also Lawrence White, *Free Banking in Britain: Theory, Experience, and Debate, 1800–1845* (Cambridge: Cambridge University Press, 1984); Dowd, *Laissez-faire Banking*.

⁷⁹Cf., e.g., Selgin, *The Theory of Free Banking*, p. 137; Glasner, *Free Banking and Monetary Reform*, pp. 199ff.

this inability could just be a tiny little liquidity problem. There may be banks, they say, which essentially are solvent. These banks just need some time to provide the liquid funds to pay out their impatient and ill-informed customers.⁸⁰

This argument ignores the fact that time is a good. If we always disposed of just a little bit more time we could be sure to have reached nirvana. With always just a little bit more time one could provide all the money in the world. Unfortunately, every means in the mundane life of the human race is limited. Time, therefore, plays a crucial role for the success of action. In every place outside nirvana one has to pay for the time-saving means called goods. There is no possibility of providing "liquidity to the market only."⁸¹ One cannot pay with liquidity; one can only pay with goods.

Yet who pays for the banks if they are unable to pay for themselves? The free bankers reply that the bank customers might *agree* to pay for the banks. They might accept devices (such as option clauses and the transformation of money substitutes into equity claims) permitting the temporary suspension of payments. Thus the fractional reserve banks could always stay in business without ever violating contracts. It is very doubtful whether these contractual remedies would be contractual legitimations of fractional reserve banking.⁸²

For the sake of the argument let us assume they would. However, they cannot be *remedies* for the shortcomings of fractional reserve banking. They merely permit banks to cure the liquidity problem by the issue of further fiduciary money substitutes, saving the banks at the expense of the other market participants. If this is a remedy then it is a very general one. Applying the same argument one could say that robbers merely solve their liquidity problems. Or imagine an engineer supplying motors that always explode. It is conceivable that he finds buyers for his products even if he warns them. Yet this does not change the fact that his motors *do* explode. If other people are damaged—which in the case of those motors will not occur as inevitably as in the case of fiduciary money—the engineer could argue: It is not only me and my customer who profit from the use of my motors. You profit from it, too, because the prices I charge are

⁸⁰Cf. Dowd, *Laissez-faire Banking*, p. 48.

⁸¹Selgin and White, "How Would the Invisible Hand Handle Money?": 1727.

⁸²For a refutation of this claim of the free bankers see Hans-Hermann Hoppe, "How is Fiat Money Possible?": 70f.

lower than those of my competitors. My motors are worse, to be sure, but the factor use in their production is lower. Hence, everybody profits from my product and from its exchange on the market. Forcing me or my customers to pay indemnities now is tantamount to ruining me. Then nobody will profit anymore. Give us just a little bit of time and let us continue our business. Then we shall be able to pay indemnities to everyone.

Nobody would accept such a proposal. If there is just one person suffering from the effects of the explosion the owner of the motor would have to pay an indemnity and stop using the motor. In the realm of banking another kind of law seems to prevail. If just one market participant does not give his consent to fiduciary issues and uses money instead his rights are violated. Yet, nobody is forced to pay indemnities and nobody is forced to abandon fractional reserve banking.

All alleged remedies for fractional reserve banking have one thing in common: they seem to shift the frontier separating efficient and inefficient enterprises. They seem to retrieve some banks from liquidity crises that could not otherwise be salvaged. They promise the age-old economic would-be miracle of rendering submarginal projects profitable with more money, without more work, productive innovations, and savings-investment. This is, of course, an illusion. The quantities of all goods are always limited. Contractual remedies per se do not create new goods. They can save the banks—but the bill has to be paid by the other market participants. Option clauses, deposit insurance, and the transformation of money substitutes into claims on equity of the banks all imply higher inflation. Yet inflation is not costless. It is tantamount to prescribing higher doses to a drug addict, thus ruining him further. A drug addict, though, inflicts harm only on his property. The contractual remedies recommended by the free bankers harm even those who did not give their consent.

How can one seriously advocate a system without believing in its success? The free bankers do not torture themselves with questions of this kind. In strict accordance with the principle that if reality does not comply to theory then it is a poor reality, they propose to take another attitude to life itself. Selgin and White, for example, suggest that the unconditional demandability of banknotes and some deposit liabilities may be the result of legal restrictions rather than market forces:

Discussions of bank runs and panics ordinarily assume that a bank continues to pay out base money until either all demands

are satisfied or the bank is declared bankrupt. An alternative exists: a bank may suspend payments of base money before such payments render it insolvent and force it into bankruptcy. Although suspension is often regarded as inherently a violation of a bank's contractual obligations to holders of its demandable debt, the unconditional demandability of banknotes and some deposit liabilities may be the result of legal restrictions rather than market forces . . . Under *laissez faire*, bank liabilities might be conditionally demandable only.⁸³

Yet the point is not whether the restrictions of the use of money substitutes are legal but whether they can be removed by an act of legislation. It is devoid of any sense to attempt a definition of legal restrictions covering any conceivable obstacle to any action. No means can be used in the pursuit of opposite ends at the same time.⁸⁴ When I use my shoes to take a walk in Central Park you cannot burn them to heat your kitchen in Montana. Yet this is certainly a restriction of your actions. There is no difference in regard to money. Each use of an ounce of gold must exclude other uses which could be made of it. The legal interdiction to issue more claims to money than money exists merely acknowledges this fact.

Last but not least, no advocate of option clauses seems to be aware that as soon as they are used, a system of different *moneys* is established. The same holds true for all essays to link checking services to equity claims. When money substitutes cease to be claims on money and, though, continue to be used each of them constitutes a different price system. Before, all of them were just expressions of the disposition of money. Thus there was just *one* price system. Now, using them does not mean any more use of money. A general acceptance of such devices would thus lead to monetary disintegration.

Contractual Remedies II: Central Banking and Inflation

The only means to avoid monetary disintegration while preserving the principle of fractional reserve banking is to pool the money reserves. Contrary to the conviction of the free bankers⁸⁵ it is immaterial which form of cooperation this pooling takes. It

⁸³Selgin and White, "How Would the Invisible Hand Handle Money?": 1729.

⁸⁴On this point see Hoppe, *The Economics and Ethics of Private Property*, p. 14.

⁸⁵Cf. Selgin and White, "How Would the Invisible Hand Handle Money?": 1732f.

can take the form of private-branch banking. It can also take the form of a private-central clearing house or of a government-imposed central bank. In each case the effects caused by concentration of money that, before, was dispersed are the same. Pooling permits a shift to large quantities of money to satisfy large but isolated redemption demands. Crises that, before, emerged out of a local liquidity problem can now be prevented. Redemption demands that, before, were critical for the whole monetary system can now be satisfied. Thus, apparently the necessary condition to stop a contagion crisis is now given. Finally, one bank seems to be able to satisfy all redemption demands.

However, one must not overlook that these effects are caused by the *pooling* of money, not by money pools as such. They are merely temporary. Pooling, therefore, cannot avoid bank runs forever. Because there are now greater facilities to provide liquidity the banks will expand their fiduciary credits, thus reducing the reserve ratio again. Only for the time needed for this expansion can the pooled stock of money suffice to help even the biggest banks out of liquidity problems.

Sooner or later, however, the reserve ratio will be reduced to such an extent that the old problem appears on a new scale. Redemption demands that, before, were uncritical now become critical for the whole monetary system. Some banks become big enough to cause, by their failures, crises of the whole system. Hence, the pooling of money stocks does not change the underlying problem of fractional reserve banking. Its main effect is to keep bankrupt banks in business and to make the other market participants pay for it. Not only are the banks able to continue the issue of fiduciary money substitutes, they can even expand it. They grow, not by increasing their services but by expropriating the other market participants.

As no final relief can be brought about by the pooling of money stocks there are but two options for the management of the pooling institution. Either it has to break the redemption promise or it has to look for possibilities to profit from a further concentration of the money stock. This was the problem faced by the central banks during the time of the old (fractional reserve) gold standard. Suspension of payments by the central bank causes principally the same effects as suspension by a single bank. If its money substitutes continue to be used they take the place of the former money. The ensuing monetary disintegration will inevitably reduce the division of labor and permit the central bank to inflate almost at will. This is, of course, the situation we find

today. On the other hand, a further concentration of the money stock must sooner or later lead to a pooling institution on a world scale. Then, at least, there would be no further solution to the persisting liquidity problem of fractional reserve banking than to break the redemption promise once and for all time. While this would have no disintegrating effects on the division of labor it would eliminate all obstacles for inflation.

However, the power linked to a (world) fiat money can only be preserved as long as hyperinflation does not result. Yet hyperinflation is inevitable if the banks are not prevented from ignoring liquidity constraints. There is but one efficient means to assure this: to regulate the free-banking, fractional-reserve, fiat-money system, that is, to impose violent restrictions on this business and especially on the credit volume. Of course, no legislation can prevent the reduction of the reserve ratio. Typically it forbids credit contracts that the rulers pretend to be especially risky. It thus makes banking more bureaucratic, suppresses competition, and, contrary to its intentions, shifts the credits into more risky investments. Thus ever more regulation becomes necessary to suppress its own unintended consequences. The contractual remedies proposed by the free bankers are roads that lead to nowhere. Far from representing solutions they aggravate the problem. They force all other market participants to patronize a destructive system which sooner or later will lead them to hyperinflation or socialism.

The Necessary Failure of Fiat Money

How Gold Becomes Money in an Unhampered Market

The above sections have dealt with the monetary issues of banking. It has been shown that the case for fractional reserve banking is weak. The free bankers' arguments against 100 percent reserves, as well as their arguments for fractional reserves, are wholly untenable. The same holds true for money proper. Here the free bankers display the same inflationist predispositions, viz., their dissatisfaction with gold. Gold is criticized because its supply is not flexible, that is, not as inflationary as its opponents would like it to be. Of course this criticism is spurious on the same grounds as the case against 100 percent reserves.

The quantity of money does not determine the benefits of its use. *All* variations of its supply are harmful. The only qualification to this statement is the increased non-monetary benefits that stem from an increased supply of specie. However, it is not sufficient to prove the

case against gold to be unfounded. One also has to show that the case for other moneys is futile. Can there be a case for fiat money? Is it conceivable that such a system could be successful?⁸⁶

Money is exchanged to be exchanged again in the future. It is bought in exclusive consideration of its future purchasing power. Yet the only successful technique for the estimation of future prices is to base this estimation on present prices, that is, the prices of the immediate past. Today's money prices, therefore, will always rely upon money prices of yesterday. This is the meaning of Ludwig von Mises's regression theorem.⁸⁷ It has vast implications for the theory of money.

Its most important implication for the analysis of the competition between moneys is that it is impossible to introduce new moneys out of thin air. History has featured just one technique for the introduction of new moneys. First, one issues documents representing a claim on money. These documents can become money substitutes if their owners can redeem them at par whenever they want. Yet, their circulation is restrained if they have the character of certificates because in this case a price has to be charged for their use. Once there are *fiduciary* issues, however, money substitutes can crowd money out of circulation. Whenever this happens, the opportunity has come for would-be entrepreneurs to *introduce* a new money. Their method is simple: they break the promise they gave and refuse redemption of the documents they issued. The latter can stay in circulation because there are already prices for them on the market. Yet, such an obvious violation of property rights on a wide scale is only possible if government does not assume its duty to punish that entrepreneur. Past governments have not only spared such persons from prosecution, they have often protected them or were even identical with them. Clearly the necessity of recourse to like procedures for the introduction of a new money represents an important limitation on competition in the realm of money. It is especially this practical aspect that has been completely overlooked by its champions.⁸⁸

⁸⁶For the following see the third part of my *Logik der Währungskonkurrenz*, forthcoming from Frankfurt/M: R. G. Fischer, 1996.

⁸⁷See Ludwig von Mises, *Theorie des Geldes und der Umlaufmittel*, 2nd ed. (Munich and Leipzig: Duncker & Humblot, 1924), pp. 85ff, also published in English as *The Theory of Money and Credit*, H. E. Batson, trans. (London: Jonathan Cape, 1934); idem, *Human Action*, pp. 408ff.

⁸⁸In his *Denationalization of Money*, 2nd ed. (London: Institute for Economic Affairs, 1978) Hayek simply skips the problem that the Ducates, which he wants

If there is more than one kind of money in use, the regression theorem has to be qualified in an important respect. There is, to be sure, still no possibility of introducing a new money out of nothing. It is still decisive for a market participant who is offered two moneys, A or B, to know at what exchange rate he can sell either of them in the future. The appreciation of this future exchange rate still has to rely upon past prices. But now another determinant of future money prices enters the scene. It is by his very decision to buy money A and not money B, that is, to use A and not B, that a market participant determines the future array of A- and B-prices. If he buys A instead of B he causes a tendency of B-prices to rise and a tendency of A-prices to fall. This means that the exchange rate A to B must rise in which case there would be incentives for him and other market participants to use A and to sell B. This in turn would accelerate this evolution further until B would be driven out of the market and A the only money left in use. In other words, *the simultaneous employment of more than one money implies that each market participant, by his very action, determines the success of this action.* It is his anticipation *per se* that favors its own correctness. This can hardly be said of any other action. In the competition of existing moneys, thus, the progressive character of money-price formation (its orientation to future selling prices) is not only reinforced; it becomes a factor of success of its own. If the competing moneys can be handled with the same ease then this is the only mechanism by which one money can become supreme and drive all others out of employment.⁸⁹

This self-accelerating process cannot be stopped by the fact that the market participants have often opposite views on future selling prices of the moneys in use. Indeed, there may be some who buy A because they expect A to rise and B to be driven out while others buy B because they expect the opposite. Even speculative activities to bring about a rapid fall in one of the moneys can possibly be equilibrated by activities of the same nature but of the

to introduce by a redemption promise, can only become money if this promise is broken. In fact Hayek's Ducates are money substitutes and not money. Otherwise they could never be issued. White holds the same misconception. See also White, *Competition and Currency*, p. 132. For a critique of Hayek's ideas on the introduction of moneys, see Martin Hellwig, "What Do We Know About Currency Competition?" in *Zeitschrift für Wirtschafts Sozialwissenschaften*, 105, pp. 565ff.

⁸⁹The selection of media of exchange of our hitherto non-monetary commodities. See for this mechanism Carl Menger, *Money*, in *Collected Works*, Vol. 4, F. A. Hayek, ed. (1933-36; London: London School of Economics, 1970), esp. chap. 8, sec. 1.

opposite intent. However, once the exchange rate begins to move clearly in one direction it is impossible to prevent the outcome described above—unless there are obstacles hindering the self-fulfilling anticipation of future money prices. Now there are two—and only two—types of such obstacles. The first refers to non-monetary employment in which a money can be used. The second concerns the number of persons who exclusively use either A or B as money.

If a money cannot be used for other purposes than for indirect exchange there is incentive to buy it even at a very low exchange rate. This is obvious in the case of a pure-sign money—as signs do not even have a substance. It is also practically the case with a fiat paper money. One certainly could find *some* employment for mountains of printed paper (burning them for heating purposes, for example). Yet the costs of these actions are likely to outweigh the benefits which could be derived from them. On the other hand, the purchase of gold and silver can never be a complete failure. They are used for many non-monetary purposes—even when their employment as money is suppressed. Gold profits particularly from its physical properties:

platinum, palladium and other precious metals are industrial metals in the possession of dealers and producers, which limits their marketability and deters their use as money. Even silver cannot compete effectively with gold because its current production, relative to its visible supply, is large, exposing its value to sudden changes in quantity. No other metal has such large stock-piles and small current production as gold. No other commodity enjoys as much universal acceptability as gold.⁹⁰

However, one could claim that there still was the second obstacle for the complete abandoning of a fiat money. If there are market participants who exclusively use one money, the exchange rate of the latter can never fall indefinitely. It could always be sold to one of these persons. One could always get a useful commodity in exchange for it. Now, as a matter of fact fiat money is never the only money in use. At least gold and silver are used everywhere and by nearly everyone in the world.⁹¹ As a consequence

⁹⁰Hans F. Sennholz, *Money and Freedom* (Spring Mills, Penn.: Libertarian Press, 1985), p. 67.

⁹¹It is futile to cite the German hyperinflation of 1923 as indicating "that inflation can reach mindboggling proportions before alternative currencies can gain a foothold," (White, *Competition and Currency*, p. 132). For anyone acquainted with the

gold and silver market prices are omnipresent. Fiat money, therefore, cannot stay in the market if exchange is free. It can never outcompete gold and silver because the latter are also used for many non-monetary purposes. On the other hand, once it is outcompeted by them it can never peacefully come back. It is only preserved because the use of gold as a medium of exchange is systematically suppressed by legal tender laws, regulation of banking and financial markets, and by taxation in fiat money. Therefore, it is wrong to suggest that "neither gold nor inconvertible private currencies will emerge as money under present circumstances."⁹²

*Transition Toward a Free Money Supply:
The Chimera of Competitive Policies*

Changing the monetary constitution to bring about a free banking system would imply the exclusion of government intervention from money and banking. Yet it is important to pay some attention to the precise meaning of "depolicitizing of money."⁹³ Abolishing central banks would not lead to a system that was unpolitical in the sense that the banks would not affect the success of other market participants. It would be unpolitical in the sense that it would not be managed by the state, the agency of violent means.⁹⁴

Abolishing central banks would *lead* to a system without government meddling with money. However, the *act* of abolishing central banks would favor some forms of free banking and necessarily prevent other forms. One cannot avoid performing a last measure of monetary policy in abolishing monetary policy altogether.⁹⁵

German mentality of this time it is rather "mindboggling" that even blind trust in authority and heavy penalties could not prevent the use of all sorts of other moneys.

⁹²White, *Competition and Currency*, p. 131.

⁹³Cf. Dowd, *The State and the Monetary System*, p. 185ff; White, *Competition and Currency*, p. 91ff.

⁹⁴For the distinction between economical and political means see Franz Oppenheimer, *The State* (New York: B. W. Heusch, 1914), pp. 24ff.

⁹⁵For the same reason there can be made no vital distinction between rules and discretion as principles of the conduct of monetary affairs. Every rule prescribing *ex ante* how much money has to be issued at what times and in what places and circumstance is discretionary by the very fact that it has to be set up by *someone*. A rule specifying, e.g., different behaviors of central bank officials according to different circumstances cannot even be said to be more "stabilizing" than any pure discretion on their side. It is therefore that rules vs. discretion is a false dichotomy, not because fractional reserve banking has been overlooked as a third alternative (as suggested by Horwitz, cf. *Monetary Evolution, Free Banking, and Economic Order*, p. 125f.

Hence, one cannot avoid answering the crucial question: what money system do I want? The free bankers feel very uncomfortable about this. They are embarrassed by the necessity to choose, that is, to discriminate and they wish to circumvent this problem by permitting competition.⁹⁶ They do not see that one cannot create an amorphous entity called competition and thus remain neutral to the whole issue: *Whatever decision one will take, it will necessarily be a decision in favor of something.* Now, money competition will unavoidably lead to the expulsion of all fiat moneys. Even the creation of a world central bank (and thus of one world fiat money) could not prevent it. If this is correct, why not directly choose it? Is it a viable argument that "more than 50 years of being off the gold standard cannot be shrugged off? The past status of gold is not sufficient to guarantee its reestablishment as money?"⁹⁷ Let us disregard this fact that the western world is merely some 20 years off the gold standard. Let us skip for a moment the fact that the use of gold as money is suppressed. The real issue is: what are the alternatives? Can fiat money be said to favor freedom more than gold? Can fiat money persist at all? As long as these questions have to be answered negatively there is just one case for abolishing central banking. This is the case for gold. If there was no gold one would have to invent it. It is correct that a "return to gold without an end to the monopoly of currency issue would at best be half a solution."⁹⁸ But the same holds true for the inverse relation. Without a return to a 100 percent reserve gold standard, free banking would be far from a full-fledged solution.

A Banking System Which Works and Banking Systems Which Do Not Work

It is bizarre to follow a discussion of "devices for reducing the likelihood that a bank will be unable to provide a full payoff to the last customer in line"⁹⁹ with 100 percent reserve banking hardly mentioned. The free bankers claim that freedom means to place no restrictions "on the terms of contracts made between banks and their customers, beyond the requirement that they

⁹⁶[T]he choice . . . ought not to be foreclosed by anticompetitive policies" (White, *Competition and Currency*, p. 162). Unfortunately this attitude is not limited to the ranks of the free bankers. See also Sennholz who seeks "merely freedom" (*Money and Freedom*, p. 77).

⁹⁷White, *Competition and Currency*, p. 130.

⁹⁸*Ibid.*, p. 135.

⁹⁹Selgin and White, "How Would the Invisible Hand Handle Money?": 1730.

adhere to the standard legal principles governing all business contracts.”¹⁰⁰ This is exactly the point. Yet, it is certainly not such a principle to permit—conscious or unconscious—robbery. The only possible conclusion concerning *legal principles* that justify fractional reserve banking would be that these principles themselves are wrong.

The claims against 100 percent reserve banking are fallacious. So are the alleged advantages of fractional reserves. The principal objection, however, is that neither fractional banking nor fiat money are viable options for action in society. Either they must regularly perish (and each time pull the whole economy with them into disaster) or the payment for the errors they provoke must be coerced by ever increasing state intervention. Hence, the choice at stake is between capitalism and another road to serfdom called fractional reserve banking. One cannot have both.¹⁰¹

¹⁰⁰Ibid., p. 1719.

¹⁰¹For plans to attain free banking on a 100 percent gold standard see Mises, *The Theory of Money and Credit*, pp. 485ff and Rothbard, “Aurophobia: or, Free Banking on What Standard?": 107f.

Hayek, Business Cycles and Fractional Reserve Banking: Continuing the De-Homogenization Process

Walter Block and Kenneth M. Garschina

Science sinks or swims based on the quality of the distinctions it makes, and social science is no exception to this general rule. It is as important to make accurate differentiations in the history of economic thought as it is in any other branch of this discipline.

In this regard, the accomplishments, writings, and analytic apparatus of Ludwig von Mises and his pupil and friend, F. A. von Hayek, have been widely viewed as all but indistinguishable. And this holds true not only within the profession as a whole, but also among economists associated with the Austrian or praxeological school.

There is good reason, at least at first glance, for such a conflation. Both economists shared, or at least appear to share, a philosophical outlook, and a methodology; their views on socialism, government regulation of the economy, the free society, and the causes of the business cycle, were in many ways similar. But there were also some sharp and important differences between them, which are rather technical. Perhaps this is one reason why they have been little appreciated. But these divergences are basic, with implications for the entire corpus of Austrian economics, and, indeed, economics in general. It is therefore all the more important to distinguish between the views of these two scholars.

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Salerno forcefully makes the point that the unrecognized incompatibility between Mises and Hayek is of far more than mere antiquarian interest:

Unfortunately, the majority of those who currently regard themselves as "Austrian economists" have failed to recognize the considerable differences between these two paradigms. And because Mises was the main influence on Hayek's early writings on business cycle theory and on socialist calculation, the most important manifestation of this failure is the tendency to attribute to Mises positions originated by Hayek or independently developed by those working within the Hayekian paradigm. This tendency is reinforced by what may be called the "Whig presumption," still inexplicably prevailing among many Austrians despite the publication of Thomas Kuhn's book three decades ago, that since Hayek "came after" Mises he must have incorporated in his own work all that was worthwhile in his predecessor's. The result is that attention has been deflected from the Misesian paradigm, and those seeking to deepen and extend it have found it increasingly difficult to gain recognition for their own efforts or to channel the interests and efforts of younger Austrian scholars into the same endeavor. There thus currently exists a pressing need, especially for Misesians, to undertake the task of a courageous and thorough-going doctrinal dehomogenization of Hayek and Mises. (Salerno 1993, pp. 115, 116)

It is not sufficient to show only that the perspectives of Mises and Hayek are not fully reconcilable; and that this fact is not widely appreciated. Once this is conceded, the question naturally arises, Which is correct and which is not? Therefore, it is important to follow Salerno's lead even further, and take a stand on that issue as well.

There is a small but ever growing literature which might be called "Hayek revisionism." It takes the view that the analysis of the teacher is very distinct from that of the student, and vastly preferable. Hayek, a 1974 Nobel Prize winner in economics, is widely known as a radical advocate of the Austrian or free enterprise philosophy. And to a certain extent this reputation is well deserved. After all, Hayek (1944, 1989) are classic critiques of socialism and central planning, Hayek (1960, 1973) defend the rule of law, Hayek (1978) shows the flaws in "indicative" or "market" planning, and many of his other books and articles demonstrate the

beneficial workings of the market (1948, 1954, 1967, 1981). Of late, however, scholars have shown that some of his most basic writings cannot be reconciled with a thoroughgoing adherence to praxeological analysis (Salerno 1993) and economic freedom (Rothbard 1982).

Even within the corpus of Hayek's own work a distinction may be made. A scholar who distinguishes two different strains of thinking within Hayek's own writing was Hutchison (1981). He labels the early publications as Hayek I (before 1936) and the later ones as Hayek II (1937 and thereafter). Of the earlier period Hutchison (1981, p. 211) states: "Affinities with the ideas of Austrian predecessors, notably with those of his 'mentor' Mises, are apparent." In contrast, the first publication of the latter period (Hayek 1937),¹ Hutchison comments:

It certainly marks a vital turning point, or even U-turn, in Hayek's methodological ideas, *and ought to be, but has not been recognized as marking a fundamental shift* . . . The main insights of this article are quite incompatible . . . with the methodological ideas in his previous writings. (1981, p. 215; emphasis in the original).

The new dispensation in Hayek had mainly to do with a shift from praxeological (e.g., Misesian) methodology to that based on logical positivism (e.g., Popper), and from an emphasis on appraisal to one of lack of full information regarding questions of central planning and socialism (Salerno 1993). This is not to say that in the earlier period Hayek was indistinguishable from Mises, nor that the latter period constituted a total break. There were differences before, and similarities afterward. But it is our contention that even though Hayek I was preferable to Hayek II, the errors in the former are still well worth exploring.

Following in Hutchison's footsteps on this research is Salerno (1993). Salerno has shown that as the years went by, and Hayek moved from his Hayek I position to his Hayek II views, he pulled further and further away from the uncompromising praxeological and free market analysis of his mentor Ludwig von Mises (1963); that whereas Hayek I was reasonably close to Mises in many ways, Hayek II began resembling him in philosophical outlook less and less.

¹For a good critique of this paper, see Selgin (1988, pp. 28, 29).

In the view of Salerno (1993),² there is not one Austrian strand emanating from Menger (1950), the founder of this School, but rather two. The first is transmitted to us by Böhm-Bawerk (1959) and Mises (1912, 1957, 1966, 1981); the second comes to us courtesy of Wieser (1967) and his follower Hayek. Salerno's contention, and our own, is that the first strand is preferable to the second (1993, especially footnotes 3 and 4). As well, and perhaps of even greater importance, Salerno shows that even the relatively preferable version, Hayek I, is not without its flaws. We shall try to show several of them: business cycles, fractional reserve banking, governmental growth enhancement, and 100 percent money.

Business Cycles

The majority of contemporary viewpoints within the economics profession favor a strong role for the state as necessary to combat the business cycle.³ With regard to the problem of booms and busts in particular, it is the consensus among economists (Frey et. al., 1984; Block and Walker 1988) that the market, uncontrolled by central authority, will continually veer into either unemployment or inflation.

In contrast, it is the Austrian contention that these problems are not "natural" results of the market system; on the contrary, they are in large part created by interventionistic acts on the part of the government in the first place. The public sector, in this view, is the problem, not the solution.

Hayek (1931) is clearly part of Hayek I. And not only that: it is also part of the Hayek I contribution which is not at all problematic. In it, he makes the point that our inability to tame market instability is not due to deficient economic acumen on the part of members of the private sector. Rather, it comes about because of the interference and regulation of credit markets by the state. Specifically, this follows from credit expansion, which drives interest rates down below the levels which would otherwise result. This, in turn, leads entrepreneurs to mistakenly

²Friedman (1991) made much the same point about the publications in the two epochs of this scholar's life, only in support of Hutchison, and in sharp contrast to Salerno, he praised Hayek II while denigrating Hayek I. Friedman's distinction, although based on methodological differences, mainly revolved around the psychological issue of "intolerance."

³For this view, which encompasses virtually all of the mainstream perspectives, see Friedman and Schwartz (1963), and Keynes (1936). For a reply to the latter, see Hoppe (1992).

invest in the higher orders of production. But Hayek is careful to point out that the error is only from the long term point of view: in the immediate run, placing money in heavy industry is fully justified by the now (artificially) lower rates of interest.

Hayek (1931) leans heavily on the work of Mises (1912, 1966); his, like his mentor's, is a malinvestment theory of depressions: these cycles come about not because of too much⁴ investment, nor yet because of too little. For all that can be known, exactly the "right amount" of investment may be undertaken. But because it enters too high in the structure of production, compared with where it would have gone had businessmen not been subsidized by low interest rates, the seeds of future economic destruction are sown. Moreover, in the Misesian tradition, Hayek (1931) makes important contributions of his own. For one thing, the now famous⁵ "Hayekian triangles" owe their appearance to this work.

If Hayek (1931) was a part of the Misesian Hayek I, then Hayek (1933) would have to be counted as an aspect of the non- or anti-Misesian⁶ Hayek I. In this discussion on cyclical fluctuations, he denies that banks are wholly or even partially responsible for the nature of the recurring trade cycle. He contends that these financial institutions have never been prohibited from holding fractional reserves and therefore should not be held responsible for any of the repercussions. We flow, seemingly endlessly, from periods of prosperity to periods of struggle and recuperation, but Hayek labels it "nonsensical" to blame banks or to hold any other party "guilty" for the continuous boom-and-bust nature of our economic cycle. Hayek states:

we can also see how nonsensical it is to formulate the question of the causation of cyclical fluctuations in terms of "guilt," and to

⁴This is not an "over-investment" theory, as asserted by Hutchison (1981, p. 224, n. 1); rather, strictly speaking, it is a misallocation of investment theory. This is a fine point of distinction, as for the Austrians there is typically excessive investment in the boom phase of the cycle. But this is not logically necessary. The key point is that these funds go to orders of production which are too high (e.g., far removed in time from consumption) for sustainability, given the public's time preference rates. Although unusual, it is compatible with the praxeological theory of the cycle to contemplate *under* investment as a causal agent. As long as these funds are placed in improperly high orders of production, there can still be projects begun for which financing necessary for completion will not be forthcoming.

⁵If only within Austrian circles.

⁶A way of characterizing this, alternative to Hutchison's (1981), is that we date the onset of Hayek II earlier than Hayek (1937). For us, it occurred at least as early as Hayek (1933).

single out, e.g., the banks as those "guilty" of causing fluctuations in economic development. Nobody has ever asked them to pursue a policy other than that which, as we have seen, gives rise to cyclical fluctuation, seeing that the latter originate not from their policy but from the very nature of the modern organization of credit. (Hayek 1933, p. 189)

Now this is more than just passing curiosity. If true, it would be, perhaps, the first case on record in all of recorded economic history, where an industry took no interest whatsoever in the regulations pertaining to it, nor in proscribing competition against extant members.

On the face of it, it would be as if the taxi industry were completely unconcerned with legislation that limited the participation of gypsy cabs (Williams 1982, chap. 6), or as if the American Medical Association were totally uninvolved in precluding the entry of new doctors into that profession (Friedman 1962, chap. 9; Hamowy 1984). In perhaps the most famous statement in all of economics, Adam Smith warned that:

People of the same trade seldom meet together, even for merriment and diversion, but the conversation ends in a conspiracy against the public, or in some contrivance to raise prices. (1776, vol. 1, bk. 1, chap. 2)

According to the view of Hayek we are now considering, bankers, of all people, would appear to be an exception to that general rule.

Fortunately, we need not rely on theoretical public choice (Buchanan and Tullock 1971; Buchanan, Tollison, and Tullock 1980) and realistic historical investigation (Kolko 1963) to show that Hayek's belief is without merit. There is also a plethora of empirical examples which can serve as a refutation of the banker-as-innocent hypothesis.

For example, Paul and Lehrman note that

America's bankers had long chafed to cartelize the banking system still further. . . . The growing consensus [in the nineteenth century], then, was to redirect the banking system by establishing, at long last, a central bank. The central bank would have an absolute monopoly of the note issue, and reserve requirements would then ensure a multilayered pyramiding on top of these central bank notes, which could bail out banks in trouble, and, moreover, could inflate the currency in a smooth, controlled, and

uniform manner throughout the nation.⁷ (Paul and Lehrman 1982, pp. 119–20)

There is another grave problem with Hayek's 1933 analysis. He believes that the banks are not "guilty" of causing business cycles *also* because he thinks that in the early stages the "natural rate of interest" or profit on the market increases, and that the banks are not astute enough to realize it, so that they only pull the loan rate of interest below the natural rate, that is, by not raising their loan rates fast enough to match changes in the natural rate. The difficulty with this is that it misconceives the Misesian (1912) insight. The problem is *not* one of omission, rather it is one of commission; it is not that the banks are too passive and ignorant about finding the right loan rate to match the natural rate. Instead, it is that they actively *expand credit* beyond the cash in their vaults, thereby *pushing* the loan rate below the natural rate. In short, the Misesian view is that the banks don't have to search for the natural rate in order to avoid generating the business cycle; all they have to do is not expand credit beyond their cash holdings. This is surely a much easier task. The banks' insistence on expanding credit generates the business cycle, and makes them responsible and thus "guilty" as charged.⁸

Fractional Reserve Banking

But Hayek is not content to exonerate bankers as embodiments of free enterprise virtue. He goes on to offer a defense for their anti-market activities (the harm of which he has just finished denying). Hayek maintains:

So long as we make use of bank credit as a means of furthering economic development we shall have to put up with the resulting trade cycles. They are, in a sense, the price we pay for a speed of development exceeding that which people would voluntarily make possible through their savings, and which therefore has to be extorted from them. (1933, pp. 189–90)

During the course of his discussion, Hayek focuses on the structure of our current monetary organization of credit and upon the inherent flaws in this structure that create the cycle. He is

⁷For a critique of this initiative, see Hoppe (1993) and Rothbard (1975, 1994).

⁸The authors of this paper wish to thank Murray N. Rothbard for this insight.

correct in identifying fractional reserve banking in particular as a major source of disruption to economic welfare, but then fails to label the state's utilization of this system as detrimental to overall growth.

The most glaring manner in which government has impeded the natural workings of the free market lies with its ability to control the volume of money. Hayek made this the basis of his Misesian-based (1931) theory of cyclical fluctuations. With the introduction of money to a society, control over the economy can be shifted from the individual's natural tendency to produce and trade to one where government disturbs and hampers the production process through its manipulation of the money supply.

Changes in the volume of money by the government can be effected in two ways: alteration of note circulation by central banks and by "creation" of deposits in other banks. Hayek correctly argues that it is the ability of independent banks to "create money" that is harmful to the economy. But these financial institutions are able to increase the money supply due to the system of fractional reserve banking. For example, if a deposit is made of one hundred dollars, the bank is only required to hold "in reserve" or "on hand" a small fraction of this amount. The rest can be granted as credit to customers who will inevitably follow the same deposit process with their newly acquired funds. In this way, in a decentralized system, money travels from bank to bank, multiplying each time it is lent out. And the original depositor, of course, is still able to draw on the funds entrusted to the bank on demand. As the process continues, the volume of money increases, lowering the money rate of interest below the natural rate, which Hayek (1933, p. 147) defines as the rate "at which the demand for and the supply of savings are equal."

Rothbard (1975, p. 19) agrees with Hayek on his thesis with regard to the causes of cyclical fluctuations, and refers to a "boom" period as one of misinvestment created by the government sanctioned credit system through its control of the money rate of interest. With banks offering credit at an artificially low level of interest, capitalists invest in production processes that must inevitably be abandoned when the banks eventually curb the amount of credit being offered because of increasing cash requirements or a rise in the discount rate (Hayek 1933, p. 175). As soon as the banks cease to increase the volume of money in circulation, the interest rate at which credit is offered will rise to the natural level and leave unfinished the investments previously made possible by increased levels of credit. The freedom given to the banks

by the state to control the volume of money and interest rates initiates production that cannot possibly be completed. The periods that we know as “crisis” or “depression,” or, in the most recent euphemism, “recession,” are in fact the time needed for the process of abandoning or reallocating the investment mistakes of the boom period.

Despite his accuracy in identifying the source of fluctuations, Hayek suggests that we must continue to use fractional reserve banking in order to spread the development of technical and commercial knowledge. This, despite the price paid in economic disruption during every bust period. He states:

And even if it is a mistake—as the recurrence of the crises would demonstrate—to suppose that we can, in this way, overcome all obstacles standing in the way of progress, it is at least conceivable that the non-economic factors of progress, such as technical and commercial knowledge, are thereby benefited in a way which we should be reluctant to forego.⁹ (Hayek 1933, p. 190)

He contends that extension of credit, even though it results in a recurring crisis, is necessary in order to enhance man’s ability to discover and produce things not possible from his own personal savings. Hayek views the “benefit” derived from providing credit to those not in effect credit worthy as outweighing the consequences of decimating the entire economy every few years. But this is mistaken. It is in fact an undermining of Hayek’s own work and defeats the logic of his entire business cycle discussion.

Contrary to Hayek,¹⁰ in order to enhance economic welfare, any prospective technological or commercial advancement should be funded based upon its own merits, and not depend upon an artificially low money rate of interest. An economy void of fractional reserve banking would be less able to overextend itself through excess credit and more likely to produce an optimal amount of technical and commercial services. These businesses may not come to fruition as quickly and powerfully as they would were they backed by artificially extended credit, but the economic foundation predicated upon voluntary choice will be stronger. The

⁹Hayek’s reference is presumed by the present authors to be to “existing monetary organization” (1993, p. 187) of which fractional reserve banking is an integral part.

¹⁰That is, to the flawed part of Hayek I whom we have been citing.

percentage of failures, e.g., wasted resources, will be therefore reduced. Moreover, an economy that sustains constant growth will outproduce one which sacrifices an undetermined number of years to crisis in order to artificially encourage growth.

Nor is this a matter of mere cost-benefit analysis. The point here is not that of the two values, economic stability and technical progress, we hold that the former necessarily outweighs the latter. On the contrary, given the impermissibility of interpersonal comparisons of utility (Rothbard 1977), our view is that it is impossible, *a priori*, to determine which one is more important. Why, then, our opposition to Hayek's preference for technical progress *vis-à-vis* stability?¹¹ It is because the burden of proof is on him who would upset the natural order of the laissez-faire economic system, and Hayek has not even seen this as a challenge, let alone attempted to overcome it.

In order to see this point more clearly, suppose that someone, call him Mr. H, had contended that war enhances scientific innovation (radar, better planes, rockets, improved medical techniques learned on the battlefield). And that, further, the value of these improvements was greater than the loss due to people being killed in war. One possible response would be based on a cost benefit analysis. Here, we might make the contrary claim that no deaths due to battle impose more of a loss on humanity than the inventions thereby conferred gain for us. But interpersonal comparison of utility considerations render such a tack invalid. Instead, we would say that the natural order of society is peace, and that the intellectual burden of proof rests on those such as Mr. H who claim, somewhat paradoxically, that the human condition can be improved by fomenting armed hostilities. It is clear that this burden has not been upheld, indeed, nor can it be.

Governmental Growth Enhancement

Hayek (1933, p. 191) also speaks about the "utilization of new inventions and the realization of new combinations." He claims that they would be made more difficult in the absence of cyclical fluctuations, and that the psychological incentive towards progress would

¹¹We assume, if only for the sake of argument, that Hayek is correct in his contention that there is a tradeoff. That is, that one can indeed gain more by destabilizing the economy in the form of new and better inventions than by allowing it to proceed freely and (relatively) steadily. Unfortunately, Hayek gives us no good reasons to suppose that this form of government intervention will promote innovativeness.

be retarded.¹² But the very opposite is true. Namely, each year many businesses are not launched simply because of fear of crisis. Capitalists would be more inclined to utilize venture funds if relatively constant growth became an expected reality, for potential investors would not have to continually fear a business-crippling recession.¹³

More radically, Hayek's conception of an increased technological or commercial rate of progress is flawed in and of itself. By offering credit to those not deemed worthy of it by the market (Hazlitt 1946, pp. 30–40), we push ourselves beyond the scale of development for which the economy is ready. There is an optimal amount of forward movement that any economy can accommodate. To overshoot that appropriate level is to attempt to advance to a degree unmanageable by society and ultimately by the individual. There exists a natural order for the structure of production, whether in the realm of physical output or of scientific and technical ideas. If so, any compulsory attempt to exceed it is logically doomed to failure. At present, lending institutions are permitted to alter the path of growth through extension of credit. This not only gives impetus to the business cycle, it also cannot succeed in its self-avowed goal of increasing the rate of technical progress.

Kirzner speaks of this phenomenon in terms of:

an intertemporal equilibrium. Plans made today must fit not only with plans made by others today [intra-temporal equilibrium], but also with plans made in the past and other plans to be made in the future. A state of equilibrium will not exist wherever any plan being made at any date fails to dovetail with other relevant plans of whatever date in the entire system being considered. A man who erects a shoe factory and who discovers in later periods that shoe leather is unobtainable, or that consumers no longer wish to buy shoes, made his decision in ignorance of the plans of others on which his own depended. A man who educates himself in a profession for which later demand is lacking has made a plan based upon incorrectly anticipated plans of others. (Kirzner 1979, p. 112)

¹²Even if true, this does not satisfy the burden of proof incumbent on Hayek. For that to be achieved he would have to assert not only that booms and busts enhance economic innovativeness, but that it does so in a manner that *more than offsets* the attendant economic losses.

¹³We are of course in effect making the usual assumption about risk-avoiding preferences.

As Kirzner points out, it is indeed possible for entrepreneurs to act incompatibly with intertemporal equilibrium. When they do so in a market context, of course, they suffer the consequences, and, as a result, this sort of misallocation tends to be minimized.

However, as Hayek does not seem to appreciate, governments, too, can engage in intertemporal misallocation, and a paradigm case in point is an attempt on the part of the state to promote overoptimal economic and scientific development. At the outset, this sounds like a contradiction in terms. How, after all, is it possible to have *too much* economic growth? One possibility, furnished by Hayek himself, is governmental monetary policy which results in a below market rate of interest, which leads to basic investments which cannot be completed, e.g., the classical Austrian business cycle time misallocation of the structure of production (Rothbard 1975; Mises 1963; Hayek 1931).

Another example might well be President Nixon's "moon shot" of several decades ago. This was a "success" in that several taxpayers were indeed launched up to this celestial body, and made it back home all in one piece. But it is unlikely that this was an impetus to the overall goal of space exploration; it is more probable that it came too soon, before the complementary factors of production were in place. The point is, had the billions of dollars spent been used instead for research and development in fuels, rocketry, life support systems, human (scientific) capital, etc., it is entirely possible that the human race would have been, by now, far ahead of where it actually is in this regard.

It is thus not a matter of weighing additional economic growth against the ravages of the business cycle. The latter is, of course, deleterious—not only to "children and other living things"—but to the entire economy. The former, however, is *also* a denigration of economic welfare, and cannot, therefore, be considered as a positive offset to the admittedly harmful boom and bust cycle.

There is another way to make this point. The Hayek I who supports fractional reserve banking and government interference with the market in order to spur "growth" is an economist who is in effect calling upon the central banking system to determine the evenly rotating economy's interest rate. That this cannot be done is not due merely to a lack of knowledge, a continual refrain in the Hayekian *oeuvre* (Salerno 1993). The problem is, fractional reserve banking must necessarily blunder into continual bouts of

excessive money creation, and other forms of instability. To be sure, it is possible to expand credit beyond 100 percent of the gold stock, but this cannot be done for the goods and services in the economy at any given time. The attempt to do so is like trying to push down the water level in the bathtub: some of the water necessarily seeps out.

One-Hundred-Percent Money

Hayek's allegiance to the present fiduciary system is evident when he states that in holding deposits stable, banks would be reduced to "the role of brokers, trading in savings" (1933, p. 190). Rothbard (1991) offers in a slightly different context what is, in effect, a blunt rebuff to Hayek's support of the banks. In speaking hypothetically concerning the possibility of 100-percent reserve requirements, he argues that savings and deposit institutions could remain profitably in business simply by charging their customers for their services, for if they provide a useful product they would be paid for it just as consumers pay for traveler's checks. Rothbard adds:

If they [the public] are not willing to pay the costs of the banking business as they pay the costs of other industries useful to them, then that would demonstrate the advantages of banking to have been highly overrated . . . there is no reason why banking should not take its chance in the free market with every other industry. (1991, p. 27)

Hayek labels the concept of 100-percent reserve requirements as utopian in that not only will our economic progress made stagnate because of them, but bank money and notes would be eliminated and all deposits would remain fettered in savings accounts. Rothbard contends that with the elimination of fractional reserves, there will be a drop in the money supply, thus shortening credit, but that the banking industry would adjust and hold debentures of various lengths to offer as credit instead of demand deposits (1991, p. 23). In this manner, credit is potentially extended only to those who are deemed worthy of it at the market rate of interest. Since loans extended at an artificially low rate lead to an inevitable disruption of the growth process, the elimination¹⁴ of fluctuations requires the abolition of this practice.

¹⁴More precisely, we should rather speak of a radical reduction, in the sense that government would no longer destabilize the market process in this manner.

As Rothbard suggests, the banking industry as we know it would be altered dramatically in the event 100-percent reserves were required. However, its ability to grant credit will not be entirely curtailed. Only demand deposits, not time deposits, will be subjected to such requirements. More importantly, many banks have diversified into other markets such as corporate finance and various sales and trading functions. In fact, under the proposed system, the trading of debenture packaged securities could become quite profitable, similar to the field of mortgage-backed securities today.

In Rothbard's view of fractional reserve banking (1991, p. 21):

issuing promises to pay on demand in excess of the amount 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; this is the creation of money without the necessity for production, to compete for resources against those who have produced. . . . I believe that fractional reserve banking is disastrous both for the morality and for the fundamental bases and institutions of the market economy.

An objection that has been used against this perspective cites the "fractional reserve parking lot."¹⁵ Here, an entrepreneur sells not the right to a parking space, as occurs in the ordinary situation, but only the right to a parking space subject to the condition that there is room in the lot for an additional automobile. The firm, then, is selling not a parking space, but in effect a lottery ticket for a parking space, where the probability of a "win" is the number of actual spaces on the premises divided by the number of such "rights" sold to the public. For example, if there are 100 parking stalls available, and the garage has sold 400 tickets, then, *ceteris paribus*, the buyer has a 25-percent chance of being accommodated when he wishes to avail himself of this service.

Now this sort of commercial arrangement, if it is conducted in an open and honest manner, is not fraudulent. It should therefore be legal. However, there is a disanalogy between this

¹⁵It would be nice to be able to cite a published claim to this effect. Unfortunately, to the knowledge of the present authors, such arguments only exist so far in the "oral tradition."

scheme and the fractional reserve system for money as currently practiced. At present, money placed in a bank is called a "demand" deposit, logically implying that it would be available, in full, whenever demanded, with a probability of certainty. If the "fractional reserve parking lot" were to be an accurate analogy to monetary practice, instead of being called a "demand" deposit, it should be called "purchasing a lottery ticket for money," or some such. Further, in every other way—publicity, explicit contracts, etc.—banking procedures would have to be brought into line with parking lot practice. Then, and only then, could the charge of fraud be dropped. Under such conditions, there would still be the empirical question of whether or not anyone would purchase a "lottery ticket money deposit."

This discussion should by now have made it clear that we are now very far removed from the system defended by Hayek. Yes, under certain hypothetical and narrowly stipulated conditions, something vaguely resembling the fractional reserve system defended by Hayek could be constructed so as to avoid the charge of fraud. It is certainly logically possible that someone, somewhere, might actually purchase such a ticket. But these implausible scenarios can by no means serve to justify the Hayekian analysis.

Like death and taxes, the business cycle has become invested with inevitability. With the advent of inflationary recession, something inconceivable under the Keynesian dispensation, the leaders of the economics profession are no longer so confident they can flatten out the peaks and the troughs.¹⁶ In our view, however, the former level of optimism is (potentially) justified, at least under the (admittedly politically unrealistic) assumption that government no longer generates the cycle through its destabilizing monetary policy. Under these conditions private malinvestment would undoubtedly occur, but it would result from poor entrepreneurial judgment, not centrally driven excess credit. Nor is there any reason to assume that these errors would "cluster" (Rothbard 1962), magnifying the errors of a few individuals. On the contrary, misallocation of funds, on the free market, would be dealt with in the same manner as all entrepreneurial error: with bankruptcy. But it is only with the initiation of 100-percent

¹⁶In the late 1960s, when the Keynesians were riding high, there was brave talk about ironing out the business cycle. Samuelson (1970, p. 330) even went so far as to title his chapter on the subject "Fiscal Policy and Full Employment without Inflation."

reserve requirements, and the overall separation of state and monetary institutions, that there is any hope of stamping out the business cycle.

Rothbard contends that:

someone must propagate the truth in society, as opposed to what is politically expedient. If scholars and intellectuals fail to do so . . . all hope of social progress would then be gone, for no new ideas would ever be advanced nor effort expended to convince others of their validity. (1991, p. 43)

Hayek's initial (1931) efforts to clarify the causal connections of the business cycle were exemplary. But as we have seen, his (1933) publication—also part of Hayek I—was highly problematic. Here, then, is another bit of evidence showing not only the superiority of the Misesian over the Hayekian vision, but also indicating that although the Misesian Hayek I is preferable to the Popperian Hayek II, the former was by no means without fault.

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In Defense of Fiduciary Media—or, We are *Not* Devo(lutionists), We are Misesians!¹

George Selgin and Lawrence H. White

The Murray Rothbard both of us knew was committed to a frank and vigorous contest of ideas. He understood that an expression of disagreement was not an expression of disrespect—quite the contrary. Here we wish to honor Rothbard's memory by addressing a set of issues surrounding fractional-reserve banking, issues on which we disagree with some of Rothbard's conclusions despite beginning (we believe) from many of the same premises. Our main concern is to defend the freedoms to issue and use fiduciary media of exchange. The vehicle for our defense is a response to criticisms of our views by Hans-Herman Hoppe in his article "How is Fiat Money Possible?—or, The Devolution of Money and Credit" (1994). Subsequent to Hoppe's article, Jesús Huerta de Soto (1995) and Jörg Guido Hülsmann (1996) have also offered criticisms of our position in lengthy articles in this journal. We address at a few points in the text below what we take to be de Soto's main arguments. Hülsmann's article has appeared too recently for us to address it directly here, but its arguments closely parallel Hoppe's. In particular, Hülsmann, like Hoppe, fails to appreciate Mises's (fairly standard) explanation of why fractional-reserve banking is feasible. We therefore believe that our rebuttal to Hoppe serves to rebut Hülsmann's main arguments as well.

The Origins of Fiat Money

It should be understood at the outset that fiduciary media, i.e., demandable bank claims that are not 100 percent backed by bank

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¹With apologies to Devo, the '80s rock band who used the slogan "Are We Not Men? We Are Devo!"

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reserves of basic money, are *not* a type of fiat money. We do not intend to defend fiat money here, and have not defended it in our previous writings. Professor Hoppe unfortunately suggests otherwise. In the course of arguing that “no fiat money can ever arise ‘innocently,’” i.e., purely from free-market forces rather than from government intervention, Hoppe (1994, p. 49) criticizes at length what he calls “various prominent counterarguments.” He names us as authors of one supposed counterargument, as though we had argued for the possibility of an innocent fiat money. In fact we have explicitly argued the opposite. In discussing the institutional evolution of free markets in money and banking we concluded (Selgin and White 1987, pp. 453–4) that “commodity-based money would persist in the absence of intervention, for the reason that the supreme salability of the particular money good is self-reinforcing,” and that there is thus “no basis for the spontaneous emergence of a multi-commodity standard or of any pure fiat standard.”²

How then do we think fiat money came to be? Our writings on the question have been plain enough. White (1989, pp. 59–61) has answered that “government has suppressed commodity money in favor of fiat money” and added: “I do not know of a single historical case of fiat money supplanting commodity money through competition rather than compulsion. . . . Historically, the introduction of fiat money . . . has come about by the permanent suspension of redeemability of the central bank’s liabilities, enriching only the government.” Selgin (1994c, p. 811) has addressed the question at length,³ affirming the conclusion reached by Mises (and by Rothbard) that “States have never established fiat monies through ‘social compacts,’ . . . but rather have had to create them at first by taking convertible commodity-based monies that were already in circulation and ‘depriving them of their essential characteristic of permanent convertibility.’” (The first internal quotation is from Rothbard, the second from Mises.)

The factual origins of fiat money are thus not, in our view, to be found in the free market. But is fiat money nevertheless a desirable innovation? We have not said so, and we do not think so. We regard the dismantling of commodity standards by governments as a great tragedy, something accomplished by highly objectionable means and having economically destructive consequences. The central banks’ devaluation and finally repudiation of their contractual obligations to redeem their notes and deposits in gold involved massive confiscations of private wealth, and paved the way for ruinous episodes of inflation and depression the likes of which would not have been experienced under an unmanaged commodity standard.

²This essay is reprinted in White (1989), a book Hoppe cites.

³Selgin’s paper was available at the time Hoppe wrote, having been presented at a Mises Institute conference which he attended in 1992.

“Fiat” Redefined by Fiat

Hoppe’s grouping us with defenders of fiat money is therefore puzzling, especially given that he recognizes (pp. 69–70) that our monetary ideal “is a universal commodity money such as an international gold standard.” So how are we supposed to favor both fiat and commodity money? The answer lies in a verbal sleight-of-hand. Although beginning his article with what seems to be the conventional definition of fiat money (“a medium of exchange which is neither a commercial commodity, a consumer, or a producer good, nor title to any such commodity; i.e., irredeemable paper money”), Hoppe tacitly redefines the category of fiat money to include banknotes and deposits that are redeemable-on-demand claims to commodity money, so long as they are not backed 100 percent by reserves of commodity money.⁴ It is true that we have offered both ethical and economic arguments in defense of the contractual practice of fractional-reserve banking.

Any author is free to redefine terms as he pleases, but it is misleading for him to depart from an established usage without announcing plainly that he is doing so. Hoppe’s expanded usage of “fiat money” is unorthodox, to say the least, even from an Austrian point of view. Mises (1966, p. 429, emphasis added), for one, defined fiat money as “money consisting of mere tokens which can neither be employed for any industrial purpose *nor convey a claim against anybody*.” He carefully distinguished the category of base money or “money in the narrower sense,” which includes gold coins (in a gold standard regime) and true fiat currency (in a fiat money regime), from the category of “money substitutes,” which includes fractionally-backed checking deposits and banknotes (which of course *do* convey a claim against banks). Finally, Mises (1966, p. 433; 1980, appendix B) referred to that portion of redeemable money substitutes backed by assets other than base money as “fiduciary media,” not as any kind of fiat money. Rothbard (1970a, p. 703) follows Mises’s terminology in every particular. According to the Misesian terminology, then, a fractionally-backed banknote that is *de facto* redeemable, and is recognized by the public to be redeemable, is not an example of fiat money. Contrary to Hoppe’s (pp. 49, 73) innovative phraseology, it is neither a “fractional” fiat money nor a “partial” fiat money.⁵ It is instead a fractionally or partially fiduciary medium.

⁴Perhaps his view is that, even when in practice a fractional-reserve bank for years fulfills every redemption request that actually comes to it, nonetheless its notes should *really* be considered irredeemable because the bank *would* default if all its notes and demand deposits were presented for redemption simultaneously. And for the same reason Hoppe may view the title conveyed by a banknote’s contractual pledge that the bank “will pay to the bearer on demand” as not *genuinely* a title at all.

⁵Redeemable bank liabilities are not fiat money even if the (fractional) bank reserves

Labels aside, Hoppe's lumping together of fiduciary media with fiat money is substantively misleading, because it blurs important theoretical differences between the two. The determinants of the quantity of fiduciary media in a fractional-reserve banking system are quite distinct from the determinants of the quantity of fiat money. Economic factors strictly limit the quantity of fiduciary media a banking system can issue, given its reserves of base money. The quantity of fiat money, by contrast, is not subject to any natural economic limit.⁶ We have argued (Selgin and White 1994, pp. 1734–5) that a natural limit to the quantity of fiat-type (i.e., irredeemable, non-commodity) money would be lacking even if such money were issued by competing firms. Thus Hayek's (1978) proposal for private fiat-type money unfortunately fails to secure the quantity and value of money. A "free banking" regime with competing issuers of redeemable notes and deposits is quite distinct from a Hayekian regime of "competing fiat monies."

Normative and Positive Questions

Given the difference between fiduciary media and fiat money, as those terms are used by Mises and Rothbard, the questions arise whether it is ethically or economically defensible to allow *fiduciary media* to be issued. We side with Mises, and part company from Rothbard and Hoppe, by acknowledging the legitimacy and practical advantages of fiduciary media and fractional-reserve banking. We base the legitimacy argument on Rothbardian normative analysis, and the practical-advantages argument on Misesian economic analysis.

Rebutting the Charge of Fraud

Rothbard (1962, 1983b, 1990, 1995) long argued that fractional-reserve banking is inherently fraudulent, and Hoppe follows Rothbard down this unfortunate blind alley. We find the inherent-fraud position impossible to reconcile with Rothbard's (1983a, pp. 133–48) own title-transfer theory of contract, which we accept, and which Rothbard otherwise uses to defend the freedom of mutually consenting individuals to engage in capitalist acts with their (justly owned) property. Rothbard (1983a, p. 142) defines fraud as "failure to fulfill a voluntarily-agreed

themselves consist of fiat money. In Misesian terms, a bank-issued medium of exchange is a "money substitute," i.e., a substitute for money proper (either for fiat or for commodity money).

⁶To be precise, we mean the quantity measured in units of account, holding the definition of the unit of account constant.

upon transfer of property.”⁷ Fractional-reserve banking arrangements cannot then be *inherently* or *inescapably* fraudulent. Whether a particular bank is committing a fraud by holding fractional reserves must depend on the terms of the title-transfer agreements between the bank and its customers.

Rothbard (1983a, p. 142) in *The Ethics of Liberty* gives two examples of fraud, both involving blatant misrepresentations (in one, “A sells B a package which A says contains a radio, and it contains only a pile of scrap metal”). He concludes that “if the entity is not as the seller describes, then fraud and hence implicit theft has taken place.” The consistent application of this view to banking would find that it is fraudulent for a bank to hold fractional reserves if and only if the bank misrepresents itself as holding 100 percent reserves, or if the contract expressly calls for the holding of 100 percent reserves.⁸ If a bank does not represent or expressly oblige itself to hold 100 percent reserves, then fractional reserves do not violate the contractual agreement between the bank and its customer (White 1989, pp. 156–57). (Failure in practice to satisfy a redemption request that the bank is contractually obligated to satisfy *does of course constitute a breach of contract.*) Outlawing voluntary contractual arrangements that permit fractional reserve-holding is thus an intervention into the market, a restriction on the freedom of contract which is an essential aspect of private property rights .

Hoppe declares our defense of the freedom to make fractional-reserve-compatible contracts to be “silly” because, he asserts, “few if any” depositors have ever realized that some of their deposits are being loaned out, even though (as he acknowledges) the payment of interest on deposits would otherwise be impossible. We doubt that most depositors are as naive as Hoppe believes. As Rothbard (1990, p. 47) has correctly observed, “It is well-known that banks have rarely stayed on a ‘100 percent’ basis very long.” We thus find it hard to believe that most people who patronize fractional-reserve banks do so under the delusion that 100 percent of the money they deposit remains in the

⁷A more standard definition of fraud confines it to a *willful or deliberate* deception for purposes of gain. Thus an unintended failure to meet the terms of an agreed transfer due to unexpected circumstances beyond the party’s control, would constitute a breach of contract, but not a fraud. Nothing herein turns on this distinction, though.

⁸Whether it is fraudulent to hold fractional reserves against a bank liability does not depend *per se* on whether it is a demand or time liability, but only on whether the bank has misrepresented itself as holding 100 percent reserves. The demandability of a particular claim issued by a bank, i.e., the holder’s contractual option to redeem it at any time, is not *per se* a representation that the bank is holding 100 percent reserves against the total of its demandable claims. Rothbard (1990, pp. 49–50) argues otherwise, based on the view that a bank’s demand deposits and notes are necessarily “warehouse receipts” and not debts. We do not see why bank and customer cannot contractually agree to make them debts and not warehouse receipts, and we believe that historically they have so agreed.

bank's vault until the moment they ask for it back. (We return to this issue below.)

But whether the informed would-be customers of fractional-reserve banks be a majority or a minority, their freedom of contract is at stake. If *any* person knowingly prefers to put money into an (interest-bearing) fractional-reserve account, rather than into a (storage-fee-charging) 100 percent reserve account, then a blanket prohibition on fractional-reserve banking by force of law is a binding legal restriction on freedom of contract in the market for banking services.

Walter Block (1988, pp. 28–30), though he (following Rothbard) judges fractional-reserve banking “as presently constituted” to be “a fraud and a sham,” acknowledges that fractional-reserve banking *could be* non-deceptive and voluntary. To make it so, Block argues, the bank needs to affix an adequate disclaimer to banknotes and deposit contracts regarding the bank's fractional-reserve-holding and redemption policies. Hoppe (1994, p. 71), citing Block, similarly allows that fractional-reserve practices would be non-fraudulent if the bank explicitly informed depositors that it reserved the right to “suspend or defer redemption” at any time.

If the proponents of the “fraud” objection to fractional-reserve banking thus concede that the objection vanishes when banks apply the equivalent of a “warning sticker,” then they concede that fractional-reserve banking is not inherently fraudulent. Fraud occurs only if a bank's customers are misled about its practices. The remaining normative debate boils down to the question of whether a warning sticker really is needed to avoid misleading customers (which in our view depends on whether the reasonable default assumption, absent a sticker, is really that 100 percent reserves *are* being held), and, if so, to the question of how explicit the sticker must be. There is also the positive question of whether fractional-reserve banknotes and deposits really could circulate among an informed public.

Our view is that a mandatory “warning sticker” is certainly less objectionable than an outright ban on fractional-reserve banking, and would not impede the practice of fractional-reserve banking, but that it is not really needed to avoid misrepresentation, because a “deposit” is *not* commonly understood to be a 100-percent-reserve bailment unless otherwise specified. As Rothbard (1970b, p. 34) once described the libertarian approach to preventing product adulteration, “if a man simply sells what he calls ‘bread,’ it must meet the *common definition* of bread held by consumers, and not some arbitrary specification. However, if he *specifies* the composition on the loaf [Rothbard does not suggest that this should be mandatory], he is liable for prosecution if he is lying.” We maintain that the common definition or default meaning of a “bank deposit” is, as

courts have recognized (Rothbard 1983b, pp. 93–94), that of a debt claim against the bank and not of a warehouse receipt.

Block and Hoppe propose slightly different warnings as adequate to avoid fraud. It is not clear whether they are merely offering examples, or instead believe these to be the only sorts of adequate warnings. Block's warning would detail the bank's reserve ratio and its policy for meeting redemptions when they exceed its reserves (e.g., first-come first-served). His example seems to assume that the bank would hold a *fixed* reserve ratio (because it specifies the precise ratio on its notes). The bank and its customers might well both prefer, however, to allow the bank discretion to vary the ratio as prudence dictates. Under varying conditions, a varying ratio is necessary to maintain a constant default risk. Hoppe's warning would inform claim-holders that the bank reserves the right to suspend or defer redemption at any time.⁹ But some banks and their customers might prefer a demandable debt contract that does not give the bank any such right to suspend. What then?

Hoppe likens his warning to the "option clauses" historically placed on banknotes, but it should be noted that such clauses only allowed for the deferral, or temporary suspension, and never for the indefinite suspension of redemption (who, after all, would freely choose to take a *permanently* suspendable note?). The Scottish banks that issued option-clause notes explicitly reserved the right to defer redemption for a specified period, in which case the note would be repaid with a specified (and high) interest bonus.¹⁰ In practice the banks went decades without invoking the option, and the clause-laden notes circulated easily at par, because the banks were not expected to invoke the option. Hoppe's prediction that option-clause notes "would be uniquely *unsuited* to serve as a medium of exchange" is false, to judge by the Scottish evidence.

Equally without historical support is Block's (1988, pp. 30–31) suggestion that, because the holder of a note issued by a bank with a 20

⁹Hoppe would also have the bank inform its borrowers that their loans can be recalled at any time. On this odd suggestion see footnote 13 below.

¹⁰Checkland (1975, p. 67) provides a specimen of an optional note issued by the Royal Bank of Scotland. The face of the note reads, in fairly large print (occupying practically the entire face), "The Royal Bank of Scotland . . . is hereby obliged to pay to [name] Or the Bearer, One Pound Sterling on demand Or, in the Option of the Directors, One pound Six pence Sterling at the End of Six Months after the day of the demand & for ascertaining the demand & Option of the Directors, the Accountant & One of the Tellers of the Bank are hereby ordered to Mark & Sign this Note on the back of the same." The Bank of Scotland, also known as "the Old Bank," introduced the option clause in 1730. Checkland (1975, p. 68) comments that "The adoption of the clause does not seem to have impaired the Old Bank's note issue." The public presumably realized that the bank would try to avoid having to invoke the option to defer redemption, both for reputational reasons and because the bank would then, under the terms of the clause, have to pay interest on its notes. The bank did not in fact invoke the option until 1762. Option clauses were outlawed in 1765.

percent reserve has only a 20 percent chance of redeeming it in the event of a bank run, a note issued by a bank known to hold fractional reserves is indistinguishable from a lottery ticket, and would be valued below par if the public were to “fully digest” the implications of its issuer’s fractional reserves. It is true that a particular bank’s notes would be valued below par if market participants worried that they might not be able to redeem the notes ahead of an imminent run on that bank. But such notes, on which default was considered a non-negligible risk, would not continue circulating, even at a discount. They would immediately be presented for redemption, and thus removed from circulation. The surviving brands of notes would be only those for which all redemption demands made in practice were expected to be met (see Mises 1966, p. 445). Fractional-reserve notes issued by respected banks—and such banks were not historically rare—were in fact able to circulate widely *at face value* because other banks and the public rightly recognized that the practical likelihood of experiencing any difficulty in redeeming the notes was negligibly small.

The notion that a fractionally-backed banknote is akin to a lottery ticket seems to rest on a failure to appreciate the simple fact that fractional-reserve banking *is feasible*, that is, that a fractional-reserve bank can in practice continually fulfill its contractual obligation to redeem on demand. A fractionally-backed claim to basic money, a banknote or checking deposit balance, can itself serve as a medium of exchange. Because it is thus useful even without being redeemed for basic money, there is no reason to expect all the claims issued by a bank (unlike claims to bread, or winning claims against a lottery) to be redeemed in a given period. As Mises (1980, pp. 299–300) put it, a banker “is therefore in a position to undertake greater obligations than he would ever be able to fulfill; it is enough if he takes sufficient precaution to ensure his ability to satisfy promptly that proportion of claims that is actually enforced against him.”

A demand deposit is the limiting case of a short-term deposit. Hoppe’s view that it is infeasible for a bank to hold a fractional reserve against its demand liabilities would seem to imply that it is generally infeasible for a bank to borrow short and lend long, or to practice anything less than perfect maturity matching of liabilities with assets. Rothbard (1983, p. 99) argues explicitly that any bank that practices maturity-mismatching, i.e., has time deposits coming due before loan pay-offs arrive, is violating “a crucial rule of sound financial management.” The practice is feasible (does not inevitably doom a bank), however, if the bank can count on rolling over or replacing at least some of its time deposits as they come due. Maturity-mismatching clearly does involve risks: not only liquidity risk, but also interest-rate risk. But surely the

rules of sound financial management do not say that risk should never, ever be taken. Rather, they call for risk to be balanced against the return for risk-taking. A risk can be worth taking if the risk is small enough relative to the reward for taking it. When long-term market interest rates are higher than short-term rates, banks do earn a reward for assuming the risks involved in intermediating short-term deposits (including demand deposits) into longer-term loans. The view that fractional-reserve banking and maturity mismatching in general are “inherently unsound” practices seems to suggest that no bank should ever knowingly engage in any risk-return tradeoff with regard to the maturity structure of its balance sheet.

Jesús Huerta de Soto (1995, p. 30) rejects “the trite argument that the ‘law of large numbers’ allows the banks to act safely with a fractional reserve,” on the grounds that “the degree of probability of an untypical withdrawal of deposits is not, in view of its own nature, an insurable risk.” It is true that the atypical withdrawals known as bank runs are not random events. But it does not follow that a bank cannot survive with fractional reserves, because solvent banks are not inherently run-prone. Even in countries (e.g., Scotland, Sweden, Canada) where the legal system vigorously enforced the banks’ contractual obligation to pay on demand (and even where legislatures outlawed the contractual escape hatch from runs provided by an option clause), well-known banks with fractional reserves did not experience runs and continually met all their redemption demands for decades (Dowd 1992; Selgin 1994a).

If runs *were* a problem even with solvent banks—that is, if depositors ran simply out of fear that others would run, thereby forcing any less-than-perfectly-liquid bank to default—an option clause would be an available contractual remedy.¹¹ An option clause in note and demand deposit contracts gives the bank the option to suspend payments in the event of a run, for a period long enough to allow the bank to liquidate its non-reserve assets in orderly fashion. To make the clause acceptable to customers, judging by the historical example of the Scottish optional notes, the bank would have to specify the period of suspension (or at least its maximum length), and obligate itself to make a compensatory interest payment (in addition to returning the note’s face value in base money) at the end of any suspension period. This

¹¹It is in this connection, and not in connection with the “fraud” issue, contrary to Hoppe’s account of our argument (1994, p. 71), that we consider the option clause important. But we can see that from Hoppe’s viewpoint the clause also eliminates the charge of fraud, since the bank is no longer promising *unconditionally* to redeem its claims on demand, and therefore the total of its *unconditionally* demandable claims no longer exceeds its reserves.

payment would not only compensate the customer for the inconvenience and delay, but would also give the bank a visible incentive not to invoke the option except when necessary (in technical jargon, it would make the contract “incentive-compatible”; it avoids a potential moral hazard problem by penalizing a bank that skimps on reserves and thereby runs too great a risk of suspension). Historically, as discussed in the text, some banks did write such option-clause contracts, where their legislatures did not forbid them to do so.

But how do we know that not everyone who accepted a fractional-reserve note at face value was in the dark about its fractional backing? At the very least we know that competing *banks* participated in clearing arrangements in which they agreed to accept one another’s notes at par. Certainly the bankers were not in the dark. They did not expect—or find—defaults at the clearinghouse to be more than extremely rare.

Third-Party Effects

Apart from the fraud and feasibility questions, Hoppe (pp. 70–71) offers another (“and more decisive”) set of reasons why fractional-reserve banking contracts should be banned: they have spill-over effects on others. His argument bears quoting:

Whenever a bank loans its “excess” reserves to a borrower, such a bilateral contract affects the property of third parties in a threefold way. First, by thereby increasing the money supply, the purchasing power of all other money owners is reduced; second, all depositors are harmed because the likelihood of their successfully recovering their own possessions is lowered; and third, all other borrowers—borrowers of commodity credit—are harmed because the injection of fiduciary credit impairs the safety of the entire credit structure and increases the risk of a business failure for every investor of commodity credit.

Let us consider these three third-party effects in turn.

(1) The first effect, the reduction in the purchasing power of money, provides no justification for legally barring the bank’s action. To think that it does is to commit the elementary mistake of confusing spill-overs from others’ actions to the *value* of C’s property, which are an inescapable free-market phenomenon and not a violation of C’s property rights, with *physical invasions* of C’s property, which are of course inconsistent with the protection of C’s property rights.¹² It should be obvious that if A and

¹²Economists conventionally distinguish a “pecuniary externality,” an effect on someone’s wealth transmitted via the price system, from a “technological externality,” a physical or otherwise direct interference with someone’s consumption or production.

B are to be barred from any transaction that merely affects the *market value* of C's possessions, without any physical aggression or threat against C or C's rightful property, then the principles of private property, freedom of contract, and free-market competition are completely obliterated. Is B to be barred from offering to sell compact disc recordings to A, merely because doing so reduces the market value of C's inventory of vinyl records?

To further illustrate the point, consider another non-banking example. Suppose that A, who owns but seldom uses a Florida condominium, contracts with B to time-share B's condominium. A then sells his own condominium, causing the value of neighbor C's condominium to fall. Does this mean that the contract between A and B should not be allowed? Has A robbed C? Not according to the Rothbardian view of property rights. If Rothbard's view of property rights is accepted, Hoppe's first effect is invalid as a ground for thinking that the principle of freedom of contract excludes fractional-reserve contracts.

(2) Hoppe's second supposed effect is that all depositors are "harmed" by the bank lending out any of its reserves, because the likelihood of their successfully redeeming their own deposits is lowered. But if those depositors have freely and knowingly agreed to fractional-reserve contracts, rather than choosing to store their money in a 100-percent-reserve institution, they have agreed to take the risk. Presumably they have agreed in order to get the deposit interest payments (or unpriced bank services) that the revenue from bank lending makes possible, and which competition for depositors compels the bank to provide to its customers. By the principle of demonstrated preference (Rothbard 1957) depositors must be presumed to benefit from the package they have agreed to accept, risk and all.

(3) Finally, Hoppe's claim that "fiduciary credit impairs the safety of the entire credit structure" is difficult to evaluate, because Hoppe does not explain how this effect is supposed to work.¹³ We imagine that Hoppe

The first is an interdependence through the market; the second is an interaction outside the market.

De Soto (1995, p. 33) fails to grasp this distinction when he mischaracterizes the pecuniary externality from fiduciary media as a "tragedy of the commons," a term that properly applies only to a particular sort of technological externality.

¹³In one passage Hoppe (p. 70) remarks that fractional-reserve banks did not "inform that some or all of the credit granted to them had been created out of thin air and was subject to being recalled at any time," and he proposes that a non-fraudulent fractional-reserve bank would have to warn borrowers "that their loans may be instantly recalled." Perhaps Hoppe believes that fractional-reserve banks typically have a secret right to recall their loans at any time, and perhaps this underlies his belief that their loans make the credit structure riskier. But we are baffled as to where he might have gotten such an unfounded idea. Fractional-reserve banks do not have the option to call in loans except where the option is explicitly specified in the loan contract.

has in mind something like the notion Adam Smith (1981, p. 321) expressed by saying that "The commerce and industry of the country . . . though they may be somewhat augmented [because less of the country's capital stock is being tied up in gold and silver], cannot be altogether so secure, when they are thus, as it were, suspended upon the Daedalian wings of [bank-issued] paper money, as when they travel about upon the solid ground of gold and silver." If so, we grant the point that a risk to a bank and its customers is involved in the bank's funding loans by issuing banknotes and demand deposits, rather than relying entirely on time deposits. There may even be spill-over effects upon the risks faced by third parties. Nonetheless we side with Smith in thinking that the risks are small in comparison with the benefits. Benefits accrue to bank depositors and note-holders, who receive interest and services paid for by the extra bank revenue generated from lending out a portion of its liabilities. Benefits accrue to bank borrowers who enjoy a more ample supply of intermediated credit, and to everyone who works with the economy's consequently larger stock of capital equipment. And benefits must accrue to bank shareholders, who could choose to have the bank not issue demand liabilities if they found the risks not worth bearing.

We consider below the resource cost savings and "inherent instability" of a fractional-reserve system. With both factors considered, a higher standard of living is made possible by allowing those members of the public who so prefer to substitute fiduciary media for the holding of gold and silver coin (White 1992, pp. 520–21). As Mises (1980, p. 359) put it: "Fiduciary media tap a lucrative source of revenue for their issuer; they enrich both the person that issues them and the community that employs them."

The entire credit structure can be made radically unsafe by central banking and other government intervention (Selgin 1989; Salsman 1990), but the effects of those measures should not be charged to fractional-reserve banking as such. As we discuss in more detail below, an unhampered fractional-reserve banking system is not inherently unstable or prone to cyclical over-expansion.

When a loan is callable the call provision is thus no secret to the borrower. Historically, call loans have been a very small share of all bank loans.

We also reject the notion, expressed in the passage quoted above, that *competitive* banks issuing redeemable liabilities can create credit "out of thin air." By the nature of the balance sheet, all bank loans must be funded by liabilities or equity. Neither source of funds can be conjured out of thin air. No one is forced to hold a competitive bank's redeemable liabilities or to buy its shares; anyone can hold claims on other banks instead, or on no bank. A competitive bank must therefore *expend real resources to attract a clientele* by the provision of interest and services. The notion that a bank can extend credit costlessly or gratuitously is valid only with respect to the inframarginal credits of a monopoly bank, or to an issuer of a forced tender; it does not apply to a bank in a competitive system (see Mises 1980, pp. 346–7).

The Popularity of Fractional-Reserve Banking

Let us return to the question of how large or small is the pool of voluntary fractional-reserve depositors. The group whose freedom of contract we are concerned with here is not a small eccentric bunch, but is the great mass of people who have demonstrated that they do prefer banks that operate on fractional reserves. To quote Rothbard (1990, p. 47) again, with emphasis added, "It is *well-known* that banks have rarely stayed on a '100 percent' basis very long."¹⁴ Yet depositors continue to patronize these banks, demonstrating their preference for them.

There are several reasons why fractional-reserve practices are and have been well-known.

First, as Hoppe (p. 70) acknowledges, from the fact that banks pay interest on demand deposits "it *should* have been clear that the bank *must* loan out deposits."¹⁵ A bank that offers interest on its demand deposits, and does not charge warehousing fees, gives its depositors clear notice that some fraction of their funds will be put to work and not warehoused.

Second, if the vast majority of people thought that their banks held 100 percent reserves, bank runs would have occurred only when there was a suspicion that the banker was about to abscond with the reserves.¹⁶ The history of banking before deposit insurance indicates that when bank runs have occurred, this has typically been for other reasons (Gorton 1988). Depositors' behavior has generally been consistent with their realizing all along that their banks held fractional reserves, and that they would pay them out on a first-come first-served basis. Generally depositors remained confident that the reserves were sufficient to meet all actual demands for cash. But occasionally, and more frequently in

¹⁴Likewise de Soto (1995, p. 31), who regards the 100 percent reserve custodial deposit as a form consecrated by the Roman Law tradition, and who would (it seems) deny transactors the freedom to make alternative (non-traditional) demand deposit contracts, does at least recognize that modern banks have been "open" about holding fractional reserves.

¹⁵Given his recognition that competitive fractional-reserve banks pass loan revenues on to depositors in the form of interest on demand deposits, we are baffled as to how Hoppe (p. 66) can—in the immediately preceding sentence, no less—claim that fractional-reserve banking "leads to a unilateral income redistribution in the bank's favor."

¹⁶It is true that a bank that mixes a time deposit business with its (100 percent reserve) demand-liability business might become insolvent, and might therefore be runnable even without any absconding. But depositors who really want 100 percent-reserve bailment contracts receive no apparent advantage from such a mixture, and they should learn over time to avoid riskier mixed institutions in favor of pure warehouse banks. If such depositors were common the market would enforce the "strict functional separation of loan and deposit banking" that Hoppe (p. 74) wishes to see. With such a separation, the mere fact that a bank offers loans is a clear tip-off that it is not a 100-percent-reserve institution.

some systems than in others, they lost their confidence, and staged runs. Runs were typically triggered by reasonable doubts about a bank's solvency. Heavier government intervention was a background condition explaining why some countries (like the United States) but not others (like Canada) had chronically weak or insolvency-prone banks (Selgin 1994a).

Early in the history of banking there may have been a case of a run being triggered by depositors' sudden realization that their bank held only fractional reserves.¹⁷ But if such a realization had been the typical cause of runs in the nineteenth and twentieth centuries, it would be difficult to explain why runs usually affected only one particular bank or an associated set of banks, and not every single fractional-reserve bank simultaneously. Running depositors who successfully withdrew their money often transferred it to other fractional-reserve banks, thought to be safer, rather than hoarding cash as they would have done if they feared fractional-reserve banks generally (Kaufman 1994). It would be farfetched to account for such behavior by insisting that the depositors had run because they had learned to their horror that their own banks had been holding fractional reserves, but were so naive as to put their money into another set of banks without suspecting them of similar practices.

Third, banks and banking legislation were widely debated in the popular press during the nineteenth century. All discussions we are aware of took it as common knowledge that banks operate on fractional reserves. It would be impossible to think that banks were holding 100 percent reserves after reading in the newspaper about such measures as, for example, the New York State Safety Fund (a deposit insurance scheme), or the so-called "free banking" acts that compelled state-chartered banks to hold specific sorts of interest-bearing assets as collateral against banknote liabilities.¹⁸

¹⁷Some writings suggest that this occurred with the Bank of Amsterdam (Hildreth 1968, p. 12, is a bit vague). But the details behind this story, as presented in Van Dillen (1934), are rather more complicated. First of all, the Bank of Amsterdam was not expressly forbidden to make loans until 1802, and, although it kept close to 100 percent reserves throughout much of its existence, there were long periods (e.g., 1723–1761) when its reserves fell substantially below its deposit balances, the difference consisting of loans made to the East India Company and to the Amsterdam Treasury. The decline in the Bank's reputation in the mid-1780s appeared to reflect not a sudden realization that it held less than 100 percent reserves, but an understandable concern that some exceptionally large loans it had made in the course of the fourth war between the Dutch Republic and England (1780–1784) had gone sour.

¹⁸The notes of New York State "free banks" even announced on their faces that they were "secured by the pledge of public stocks," a clear indication that the notes were backed by something other than 100 percent reserves. This inscription was, however, required by law (Hildreth 1968, p. 202).

Fourth, fractional-reserve banking has never been compulsory. Depositors have always been free to insist on 100 percent reserves. They can do so even now, by hiring safety-deposit boxes and stuffing them with cash. (Some do, but mainly to hide their wealth rather than to secure it against bank failure.) Few people have taken the 100-percent-reserve option because—as Rothbard (1990, p. 47) forthrightly acknowledges—it means foregoing interest and paying warehousing fees instead. Most depositors would rather receive interest on their deposits, and consider it more than adequate compensation for the risk involved in fractional-reserve banking. (Here again, we are drawing on evidence from banking systems with relatively unhampered banks and no government deposit guarantees.)

We infer, in accordance with the Rothbardian notion of “demonstrated preference” (Rothbard 1957), that the vast majority of consumers have preferred fractional-reserve banking. Against this Hoppe offers his *a priori* conviction that most depositors could not, would not, and did not ever knowingly engage in such a risk-return tradeoff. For Hoppe the offer of interest on fractionally backed demand deposits is just a swindler’s come-on, which millions of depositors have unwittingly fallen for, wholly innocent of the fact that banks can generate the revenues that go to pay the interest only by lending out some fraction of their deposits.

The fact that banks compete for depositors poses a problem for Hoppe’s position that cannot be so casually brushed aside. Rivalrous competition by fractional-reserve banks seeking depositors’ funds will bid up deposit interest rates (and increase the level of services provided) to the point where banks have to pay such high interest (and provide so many services) to attract deposits that entry is no longer attractive. Thus competition will beat down the returns to capital invested in fractional-reserve banking until the marginal bank is earning only the normal rate of return. In this situation, were it really true that most depositors are willing to forego the interest they are receiving (and instead pay storage fees) in order to have the security of a 100-percent-reserve bank—but simply don’t realize that their banks aren’t holding 100 percent reserves—then any banker (who *does* know what the banks are up to, after all), possessing even an ounce of entrepreneurial insight, would see an easy way to grasp pure profit. All the banker has to do is to offer credible 100-percent-reserve accounts, while alerting the public to the other bankers’ practices, and depositors will come flocking in.¹⁹ If

¹⁹Picture a television spot showing a gleaming vault filled with cash. An authoritative voice-over announces: “Here at the Solid Gold Warehouse Bank, your deposit is

100-percent-reserve banks are legal and really would be preferred by the majority of informed depositors, and the only reason depositors continue to patronize existing banks is ignorance of their fractional practices, then there would be a huge profit to be had by being the first to inform depositors and to offer them the alternative practice.

There have been historical banking systems where explicit 100-percent-reserve banks could have entered the market and where deposit insurance did not exist to slant the playing field in favor of fractional-reserve banks. Yet very few (if any) banks, after the earliest days of banking, have ever tried to attract depositors on that basis. Even if there were one or two such banks in the early days, clearly their approach never spread to dominate the banking market the way it would have if most depositors were truly ready to pay the fees necessary for 100-percent-reserve banking. Maybe entrepreneurship doesn't tend to sniff out profits as well as the Austrian theory of the market process usually suggests. We think it more likely that 100-percent-reserve banking is just not very widely demanded, because of its foregone-interest cost.²⁰

The Resource Cost Savings From Fiduciary Media

Hoppe (pp. 56–58) considers but rejects a standard economic argument we accept concerning fractional-reserve banking: that it reduces the resource costs associated with indirect exchange, by partially substituting bank-issued exchange media for commodity money, thereby reducing (inframarginally) the resource costs of producing money. The resource-cost-saving view is expounded not only by Adam Smith but also by Ludwig von Mises. In *The Theory of Money and Credit*, Mises (1980, p. 333) observes that, thanks to the development of fiduciary media and clearing systems among their issuers, a “tremendous increase in the exchange value of money, which otherwise would have occurred . . . has been avoided, together with its undesirable consequences.” The “undesirable consequences” are the diversion of capital and labor “from other branches of production to the production of the monetary metal.” Had it not been for the development of fiduciary media, Mises points out, “the welfare of the community would have suffered” because “a smaller quantity of economic goods would have been available for the direct satisfaction of human wants.”²¹

backed with genuine 100 percent reserves. *All your money stays here waiting for you all the time.* We're not like those *other* banks [camera pulls back to show an adjacent vault which is empty, with moths flying about inside] that try to get by on (gasp!) *fractional reserves.*”

²⁰It might be said that most people would rather “put their money where the moths are.”

²¹For an extended secondary account of Mises's defenses of fractional-reserve banking, see White (1992).

We are puzzled that Rothbard (1990, pp. 33–34), while emphasizing the point that once an economy is fully monetized there is no benefit to money-users from producing more units of money, does not follow Mises in recognizing the consequent value of economizing on the resources used to produce more money.²²

Although many mainstream economists believe that a fiat base money is less costly than a commodity base money, we do not share that view. Fiat money is different because its introduction is involuntary, so that it does not pass a demonstrated preference test, and because its quantity is subject to arbitrary expansion by its issuer, making a fiat system potentially very costly for the economy even if the monetary demand for gold and thus the costs of gold mining were reduced.²³ Our position is rather that, *given* a commodity standard, informed money-users benefit when those who want to are allowed to hold fractionally backed notes and demand deposits. Potential gains from voluntary trade are lost when the public is restricted to full-bodied coins and 100-percent-reserve deposits.

Hoppe (p. 58) denies that redeemable bank monies can save resources. The savings are illusory, he thinks, because “the overwhelming bulk of the population would employ money proper for most of their purchase or sales.” In a footnote (p. 58 n. 11) he adds, without citing a source of evidence: “Indeed, historically this has been the case: Traditionally, notes have always been widely distrusted, and their acceptability—as compared to that of genuine money such as gold or silver coins—was severely limited.”

The facts are otherwise. Throughout the silver and gold standard eras, consumers given a choice ordinarily demonstrated a marked preference for banknotes over full-bodied coins as a more convenient medium of exchange for all but the smallest transactions. The demonstration of preference was especially clear where banking was relatively unhampered by legal restrictions. In Scotland during the free banking era (1716–1844), according to Checkland (1975, p. 382), the first object of any recipient of a gold sovereign was “to get quit of it in exchange for a bank note.” Virtually all sizable payments were made with banknotes.

²²Rothbard (1990, p. 34) argues that gold mining is not socially wasteful, even though an increased supply of gold does not confer any monetary benefit, because gold is a useful commodity for making jewelry, filling teeth, and so on. But the question of social waste from imposing a binding 100-percent-gold-reserve requirement on banks does not concern the cost of mining gold for *non-monetary* uses. It concerns the cost of mining that *portion* of the gold supply destined for bank vaults, over and above the amount of gold banks would acquire if free to choose their own reserve ratios.

²³In practice, the relative price of gold has risen since the scuttling of the gold standard, because few central banks have sold off their gold reserves and because the public has understandably accumulated gold as an inflation hedge. See Garrison (1985).

Similar practices prevailed in Canada (National Monetary Commission 1910, p. 53).

Inherent Instability

Apart from the "fraud" issue and third-party wealth effects, Hoppe believes that fractional-reserve banking is a bad thing because it supposedly produces a monetary instability that contributes to credit cycles and banking crises. We share the view that monetary instability contributes to cycles and crises, but we attribute monetary instability to central banking and other government intervention in the monetary system, not to fractional reserves *per se* or to the practices of competing fractional-reserve commercial banks.²⁴

Hoppe views fractional-reserve banking as something that a proper legal code would ban, and instability as a problem inherent in fractional-reserve banking, and therefore does not distinguish the effects of free banking from the effects of government intervention. Nor does he offer any historical evidence that might test his view against our view. He does take issue with our theoretical argument that free banking tends to permit expansion of the stock of fiduciary media only to an extent consistent with the preservation of monetary equilibrium and the avoidance of the credit-expansion-induced business cycle.

In discussing the requirements for preserving "monetary equilibrium" (that is, equality between the nominal quantities supplied and demanded of money balances, or equivalently between the real stock and real quantity demanded) it is important to distinguish between short-run and long-run implications of changes in the demand schedule for money or in the stock of money. In the long run, nominal prices will adjust to equate supply and demand for money balances, whatever the nominal quantity of money.²⁵ It does not follow, however, that each and every *change* in the supply of or demand for money will lead *at once* to a new long-run equilibrium, because the required price adjustments

²⁴Our writings on cycles and crises include Selgin (1989; 1992; 1993) and White (1984, pp. 18–19, 44–9, 53, 103–12; 1993). Hoppe's claim that White "nowhere even mentions the problem of business cycles" is easily shown to be false. Even a cursory glance at the index of the only work of White's that Hoppe cites reveals several mentions of the problem of business cycles (White 1989, pp. 6, 77, 81–4, 142, 159). White (1992, esp. pp. 524–26 and 532, n. 29) directly addresses Mises's view of banking and the business cycle, including the "Austrian–Misesian claim that *any* injection of fiduciary credit must result in a boom-bust cycle" that is the jumping-off point for Hoppe's economic critique of free banking. It should be noted that Mises did *not* share Hayek's view (see White 1995) that fractional-reserve commercial banks, unprompted by central bank policy, can be expected to over-expand and thereby to generate business cycles repeatedly.

²⁵Hoppe (p. 65 n. 19) appropriately refers to this as an "old—Humean—insight."

take time. They take time because not all agents are instantly and perfectly aware of changes in the money stock or money demand, and because some prices are costly to adjust and therefore "sticky." It follows that, in the short run (empirically, think "for a number of months"), less than fully anticipated changes to the supply of or demand for money can give rise to monetary disequilibrium. The quantity of money supplied may exceed the quantity demanded, in which case prices need generally to rise; or the quantity of money demand may exceed the quantity supplied, in which case prices need to fall (Yeager 1986).

Such states of monetary disequilibrium, although temporary, may involve serious misallocations of resources. In addition to involving prices that are *generally* "too low" or "too high" (for equilibrium in money holding), they also typically involve distortions of *relative* prices, most importantly (we learn from the Austrian business cycle theory) the rate of interest. Following Wicksell, the Austrian theory holds that an unanticipated injection of money (or rise in the "velocity" of money) can drive the interest rate in the short run below its equilibrium ("natural") level, and thereby encourage unwarranted investments. Correspondingly, an unanticipated destruction of money (or drop in "velocity") can drive the interest rate in the short run above its natural level, and thereby artificially curtail warranted investments.

Some economists deny the importance or even the conceptual coherence of short-run monetary disequilibrium as sketched above. New-Classical theorists do so, with a certain internal consistency, because they subscribe to a Walrasian model implying instantaneous and complete price adjustment. Some Austrians do so, with a regrettable *inconsistency*, when they recognize the destructive consequences of price inflation driven by monetary expansion, but nonetheless try to argue that price *deflation* is always okay, in any amount. It is inconsistent to apply short-run, Wicksellian, disequilibrium analysis when talking about increases in the stock of money and price inflation, and then switch exclusively to a long-run, Humean, equilibrium-always analysis when talking about increases in money demand and deflation.

We aspire to be consistent Wicksellians, and so regard both price inflation and deflation as regrettable processes *insofar as they are brought about by arbitrary changes in the nominal quantity of money, or by uncompensated changes in its velocity, and not by changes in the real availability of final goods or the cost of production of money* (Selgin 1990, 1995; White 1990). It is therefore an attractive feature of free banking with fractional reserves that the nominal quantity of bank-issued money tends to adjust so as to offset changes in the velocity of money (Selgin and White 1994, p. 1725). Free banking thus works

against short-run monetary disequilibrium and its business cycle consequences.

The argument for the equilibrating properties of free banking rests in part on recognizing that an increased demand to hold claims on intermediaries, including claims in the form of banknotes and demand deposits, at the expense of holding additional consumer goods, is equivalent to an increase in desired saving. Hoppe (p. 72) disagrees, labeling this analysis a "confusion." He declares that

it is plainly false to say that the holding of money, i.e., the act of not spending it, is equivalent to saving. One might as well say—and this would be equally wrong—that the not-spending of money is equivalent to *not*-saving. In fact, saving is not-consuming, and the demand for money has nothing to do with saving *or* not-saving.

We submit that the confusion is Hoppe's, not ours. The above-quoted passage identifies saving as not-consuming, which taken literally means that saving is any disposition of wealth other than for present consumption. Elsewhere (p. 50) Hoppe correctly observes that money "is demanded as a medium of exchange—rather than for consumption or production purposes," that is, that money-holding is a form of not-consuming. Together these statements contradict his claim that holding money is not a form of saving.

Hoppe's position is that saving is an expression of time preference, but money-holding is not. Thus to save is to *defer* consumption, and because the holding of money does not signal a definite decision to defer consumption (unlike the purchase of a bond or a capital good), it is not a form of saving.²⁶ We agree that time preference and money demand are distinct, and that a change in one does not imply a change in the other. Nonetheless, to hold money *is* to hold it for *later* spending, even though *how much later* is not signalled (and typically has not yet been decided by the money-holder). Holding money for later spending, rather than spending it on consumption *now*, does defer consumption to the future. As Hoppe (pp. 72–3) himself points out, the demand for cash stems from the convenience it allows one in purchasing "consumer or producer goods at uncertain *future* dates" (emphasis added). So perhaps our disagreement here is merely over words.

The substantive question Hoppe raises is whether, as he asserts, "*any* injection of fiduciary credit must result in a boom-bust cycle." We deny that an increase in fiduciary media *matched by an increased demand to hold fiduciary media* is disequilibrating or sets in motion the

²⁶Thus Hoppe (p. 72) emphasizes that to hold money "is to purchase neither consumer goods *nor* investment goods."

Austrian business cycle. The act of holding fractional-reserve *bank-issued* money not only (like holding base money) defers consumption for a longer or shorter period, but also *temporarily lends funds* to the bank of issue in so doing. The period of the loan is unspecified—a demand deposit or banknote can be redeemed at any time, though only a fraction are in fact redeemed on any day—but if the bank can estimate with a fair degree of accuracy the lengths of time for which its demand claims will remain in circulation (the statistical distribution of their times to actual redemption), it can safely make investments of corresponding length.²⁷ As Mises (1980, p. 362) wrote with respect to the related problem of estimating the volume of demand for a bank's fiduciary media, the banker here “has to rely upon an uncertain empirical procedure which may easily lead to mistakes. Nevertheless, prudent and experienced bank directors—and most bank directors are prudent and experienced—usually manage pretty well with it.”

De Soto (1995, p. 32) asserts that fractional-reserve free banking “must inexorably, sooner or later, lead to uncontrolled expansion in the monetary supply,” and claims Mises's authority for this view. Mises (1966, p. 443) actually, and we believe quite correctly, held a very different view:

Free banking is the only method for the prevention of the dangers inherent in credit expansion. It would, it is true, not hinder a slow credit expansion, kept within very narrow limits, on the part of cautious banks which provide the public with all the information required about their financial status. But under free banking it would have been impossible for credit expansion with all its inevitable consequences to have developed into a regular—one is tempted to say normal—feature of the economic system. Only free banking would have rendered the market economy secure against crises and depressions.

Hoppe misunderstands Selgin's argument when he characterizes it as jumping from the view that the holding of money represents savings to the conclusion that “an increased demand for money [is] the same thing as increased saving.” That holding money is one form of saving does not imply that an increase in the demand for money is identically an increase in total saving. An increased demand for money may accompany a reduced demand for holding other assets, and not a reduction in consumption; hence it may be part of a change in the manner of saving with no change in total savings. If, for example, the public's demand for bank deposits increases at the expense of the public's demand for bonds, holding

²⁷Thus interest-bearing demand deposits are not inconsistent with sound banking.

constant the rate of time preference (or, alternatively put, holding constant the planned and expected time-profile of consumption),²⁸ there will be no change in “the” natural rate of interest, viewed as a composite of interest rates on all financial assets. Expansion of the volume of deposits is nonetheless warranted in this case. Assuming rising marginal costs of intermediation, the equilibrium rate of interest on bank deposits will have fallen, while the rate on bonds will have increased. The increased demand for intermediation raises the “price of intermediation” represented by the spread between the deposit and bond rates. Banks are warranted in expanding their balance sheets to meet the increased demand for deposits, until the actual deposit rate falls to the new equilibrium deposit rate. (Meanwhile, the market value of existing bonds falls *pari passu* with the increase in the bond interest rate.)

An increase in *savings* is neither necessary nor sufficient to warrant an increase in fiduciary media. An increased demand for “cash” (Hoppe, p. 73) does not warrant an increase in fiduciary media or inside money, assuming that “cash” is used to mean *high-powered* or *outside* money such as gold coins (as opposed to low-powered, competitively-issued banknotes). It is specifically an increased demand to hold “balances of inside money” (Selgin’s words, quoted by Hoppe) that warrants an increase in the quantity of inside (bank-issued) money. A banking system that accommodates an increased real demand to hold its demand liabilities by expanding their quantity does nothing to drive market interest rates away from their natural values, spur excessive investment, or set in motion a boom-bust cycle.

We can put this point another way. Consider the case in which the public increases its desire to save, due to a drop in time preference, and people elect to forego some current consumption spending out of their income in order to build up their holdings of *time* deposits issued by banks. We imagine that no Austrian will object that it is dangerous to allow the banking system to accommodate this shift. The natural rate of interest has fallen. The public correspondingly bids down the interest rate on time deposits, and by lending their extra deposits banks bid down the interest rate on loans, so the market rates correctly track the natural rates.

Now consider the case where the public increases its desire to save, due to a drop in time preference, and people elect to forego some current consumption spending out of their income in order to build up

²⁸It may be that this *ceteris paribus* condition is seldom met in practice. It may be that a shift from bonds to money is usually joined to a change in time preference, i.e., is usually accompanied by a shift toward the present (or toward the future) in the planned time-profile of consumption. Nonetheless these shifts are conceptually distinct. The *ceteris paribus* assumption allows us to analyze their effects separately.

their holdings of interest-bearing *demand* deposits issued by banks. We submit that it is no more dangerous, or disequilibrating, or cycle-inducing, to allow the banking system to accommodate *this* shift.²⁹ It would, instead, be disequilibrating and unfortunate if the banking system were *not* to respond. The velocity of bank-issued money (the ratio of dollars spent per year to dollars held) has fallen. If the banking system fails to increase the quantity of bank-issued money and the price level does not promptly drop, an excess demand for money arises (assuming also that the quantity of base money does not immediately increase). A corresponding excess supply of goods arises: unsold consumer goods pile up on sellers' shelves (this is of course what proximately puts downward pressure on prices, until at last goods prices have fallen sufficiently). Business is depressed until the purchasing power of money gets back to equilibrium. By failing to increase the quantity of deposits, the banking system also fails to bid down the interest rate on deposits and loans. The natural rate of interest has fallen, but market interest rates temporarily stay put. Investment does not increase to match the increased desire to save, and the structure of production does not adapt as it should to match the drop in time preference.

Conclusion

Fiduciary media are not fiat money. A monetary system with a commodity standard, competitive banking, and the freedom to use fiduciary media among consenting transactors is consistent with justice, efficiency, and economic stability. It is preferable on these scores both to a system (like today's) where the law has forced money-users to give up gold and gold-redeemable fiduciary media in favor of fiat money, and to a system (like those proposed by 100-percent-reserve advocates) where the law restricts money-users from holding any or some types of fiduciary media.

²⁹But how can the banks manage to expand their demand deposits, if total bank reserves have not changed? The increased demand to *hold* demand deposits, relative to income, means that fewer checks are written per year per dollar of account balances. The marginal deposit dollar poses less of a threat to a bank's reserves. Thus a bank can safely increase its ratio of deposits to reserves, increasing the volume of its deposits to the point where the rising liquidity cost plus interest and other costs of the last dollar of deposits again equals the marginal revenue from a dollar of assets (Selgin 1994b).

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The Option Clause in Free-Banking Theory and History: A Reappraisal

Parth J. Shah

Banks under a free-banking system, like banks with fractional reserves under any other system, are susceptible to runs. Free-banking theorists maintain that the option clause would be one effective means of dealing with runs on banks. The option clause, printed on banknotes, would allow banks to defer redemption of their notes provided they pay interest for the period of deferment. The clause would enable banks to protect their liquidity in the face of an unexpected increase in demands for redemption, and allow them time to adjust their portfolios. To make the clause notes acceptable to the public, banks would likely promise to pay interest at a rate higher than the market rate for the period of deferment. This penalty rate would dissuade banks from misusing the option clause. The clause therefore could serve as a crucial stabilizing mechanism for a free-banking system.

Historically, eighteenth- and nineteenth-century Scotland (White 1984), Sweden (Jonung 1985), and Canada (Schuler 1988) serve as examples of free-banking systems that have employed option

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clauses. Among the three, the Scottish free-banking experience furnishes the most detailed information on the use of the clause (Dowd 1988, 1991; Gherity 1995). In Scotland, the clause was first adopted in 1730 by the Bank of Scotland to protect itself against "note duels" initiated by its new rival, the Royal Bank of Scotland. It was, however, outlawed in 1765.¹ Despite its short duration, the Scottish experience is generally cited as an illustrious example of the operation of the option clause in a free-banking system.

Modern free-banking theorists who view the overall Scottish experience as exemplary, consider the option clause a desirable market solution to the problem of unexpected demands for redemption (White 1984, pp. 28–29; Selgin 1988, pp. 161–62; Selgin and White 1994, p. 1726; Dowd 1988). Cowen and Kroszner (1989) and Sechrest (1993, pp. 79–93; 1988) have been skeptical in interpreting the Scottish experience as that of "genuine" free banking.² They do, however, share with the previous group the view that the option clause was an important, effective, and desirable innovation. There seems to be a consensus among the free-banking theorists on both issues: one, of the historical usefulness of the option clause in protecting the Scottish banks from runs and "note duels," and two, of its desirability in any future free-banking system as a stabilizing mechanism.³

Despite the consensus, a description of the exact working of the option clause either theoretically (logically) or historically is missing. A focus on the mechanics of the option clause raises doubts about its alleged historical usefulness and its desirability in any future free-

¹Even though the option clause was outlawed in 1765, the free-banking system in Scotland lasted until 1844.

²A list of skeptics should also include Rothbard (1988). But he neither discusses the option clause nor advocates free banking.

³A notable exception is Yeager (1993). In his review of Dowd's *Laissez-Faire Banking*, Yeager raises concerns about the workings of the option clause. Gherity (1995) evaluates the Scottish experience with the option clause using contemporary magazines and newspapers. He does not deal with the logic of the operation of the option clause.

banking system. When one tries to work out what exactly happens after a bank invokes the clause—the mechanics of the clause—several questions arise that the proponents have so far left largely unanswered. How would a bank distinguish notes presented for redemption from ones that were not? Would invocation of the clause apply only to notes or also to deposits? Would the bank refuse conversion of deposits into notes? If the bank allows customers to convert their deposits into notes, wouldn't all customers convert to earn the penalty rate of interest? Would the bank then be compelled to pay the penalty rate on all its notes and deposits? In order to earn that rate, people would have to hold on to the notes and deposits. What would they then use to carry out transactions?

An understanding of the mechanics of the option clause brings the costs of using it into sharper focus. These costs must then be balanced against the benefits of the clause.

Benefits of the Option Clause

The origin of the option clause points directly to its use in making “note duels” ineffective, thus largely eliminating a potential source of instability in a free-banking system. When a rival bank presents large amounts of notes for redemption, exercise of the clause would foil its attack. Moreover, anticipation of its use would prevent any rival bank from even attempting a note duel.

The clause elicits a stabilizing response not just from rival banks but also from the public. Dowd (1991, p. 763) argues that the clause would “reduce the pressure on the public to participate in bank runs, and make bank runs both less likely and less damaging (to everyone concerned) if they do occur.” Without the clause, any strong fear of a bank run would induce noteholders to start a run as they would suffer losses by not being first in line. The option clause, in fact, gives “an interest ‘bonus’ for *not* being first in line” (Cowen and Kroszner 1989, p. 5). If others demand redemption and force the bank to invoke the clause, the noteholders back in line would earn a penalty rate of interest. “Hence, the option clause helps to convert speculative demands for redemption from the destabilizing force

they are under full convertibility to a stabilizing force that protects the banks' reserves when they are run down" (Dowd 1991, p. 764).

By aiding individual banks in handling runs on their base money, the option clause also contains a bank run from spreading to other banks—the contagion effect. Banks' exercise of the clause prevents any system-wide liquidity crisis; bank runs do not turn into banking panics. The clause therefore diminishes the need for a lender of last resort.

Use of the clause also strengthens the bank's liquidity position by a process that has been overlooked in the literature. Notes issued by the bank that has invoked the clause would bear a penalty rate of interest. But given the difficulties in calculating interest at each transaction, those notes would not circulate freely as media of exchange. People would hold on to those notes to earn interest and the bank would enjoy reduced demands on its reserves. The bank would also experience a more favorable clearing against other banks at the clearinghouse, since its notes would be held and not passed on to the customers of its rival banks. Notes of the rival banks would be in use as before, so the bank would acquire more than the usual quantity of them. By redeeming those notes, it would be able to acquire specie from other banks in the system. This would help strengthen the bank's liquidity position.

Henry Meulen (1934, pp. 77–81) argued that the use of the option clause would lead to more efficient financial intermediation by the banking system. The clause would allow banks to replace the specie in circulation by paper, and would enable banks to further expand credit by releasing funds tied up in reserves.⁴ By reducing the threat of sudden demands for redemption, the clause would permit banks to hold proportionately less specie, or to expand their liabilities proportionately more.

Dowd (1991) contends that the clause plays a stabilizing role in

⁴One is struck by the similarities between Meulen (1934) and Schumpeter (1955) on the role of bankers and credit creation in economic development.

the market for “gold bills,” which are promises to pay gold in the future. Banks would initially demand gold on the spot market to meet the large redemption demands.

As the demand for spot gold continues to rise, the price of [gold] bills would fall to encourage holders to lend it and to discourage spot demands. . . . If it continued to fall and banks had the option clause, there would come a threshold point at which banks would suspend convertibility. The falling price of bills implies a rising gold interest rate, and the banks would suspend when that interest rate began to increase beyond the interest rate they would have to pay if they suspended the convertibility. Once that point has been passed, the banks could make a profit by suspending and effectively borrowing from the public at a fixed interest rate (i.e., the compensatory rate they would have to pay to noteholders), and then lending out their gold reserves. The public would be able to calculate when the banks would intervene, and rational speculators would appreciate that this intervention would almost certainly stop the price of gold bills from falling further. . . . [T]he banks’ anticipated intervention when bill prices hit the threshold point ought to be more than sufficient to break the price fall. The bear speculators would almost certainly cut and run before the banks intervened, and the price of gold bills would fall to normal. It would be the threat of intervention, rather than the intervention itself, that would stabilize the market. This shows how effective option clauses can be even if they are never invoked. (Dowd 1991, pp. 764–65)

The effectiveness of the clause in reducing the threats of note duels, bank runs and panics, and adverse speculation in the market for gold bills leads Dowd (1993, p. 25) to consider the clause as one of three distinctive features of “a highly sophisticated free-banking system.” He further maintains that the theoretical advantages of the clause are borne out by the Scottish free-banking experience before

1765 (1988, pp. 330–31). In their survey article on free banking, Selgin and White (1994, p. 1729) conclude that the option clause is a “type of run-proofing” contractual arrangement.⁵

Incentives for Being First in the Redemption Line

The option clause, as the proponents maintain, allows for “orderly suspension” and lessens the need for noteholders to be first in line during any liquidity crisis. It actually pays an “interest bonus” for not being first in line. These incentives are crucial for the alleged benefits of the clause.

The incentives for not being first in line must be counterbalanced by two other concerns: one, the default risk, and two, the price of “waiting.” Notes on which the clause is invoked would earn an interest compensation, but payment of the principal or the interest is not guaranteed. The clause does not promise that the bank would not declare bankruptcy during the deferment period. In fact, by invoking the clause, the bank has already signaled difficulties regarding its portfolio. Noteholders must then weigh the prospects of the bank’s closure—the default risk—against the promise of interest payment.

Moreover, the whole of the interest payment is not a “bonus” to noteholders. They would have to wait for a period of time before receiving the specie. The price of “waiting” is generally positive—specie today is worth more than specie later. The market rate of interest can be taken as reflecting the price of waiting. So only that part of the interest payment that is more than the market rate of interest is a “bonus” to noteholders.

Noteholders would take into account the default risk and the price of waiting in deciding whether they want to be first or last in the redemption line. The sum of the default risk premium and the market rate of interest (the price of waiting) must be smaller than the interest rate offered on the clause, in order to keep noteholders

⁵For their recent statement of support for the clause, see Selgin and White (1996, pp. 91–92).

away from the line. One could know the market rate of interest and the clause rate, but the default risk premium is determined subjectively by individual noteholders. In light of these issues, it is not obvious that the clause would always dissuade noteholders from ever being first in the redemption line.⁶

Mechanics of the Option Clause Use

The proponents of the clause do not describe what chain of events actually occurs after it is invoked. To understand the mechanics of the clause or the logic of its operation, it is instructive to consult some actual experience of its use.

Banknotes Turn into Bonds

Consider first the actual text of a typical option clause used in Scotland: “pay the bearer one pound sterling on demand or, in the option of the Directors, one pound sixpence sterling at the end of six months after the day of the demand & for ascertaining the demand & option of the Directors, the accomptant & one of the tellers of the Bank are hereby ordered to mark & sign this note on the back of the same” (Checkland 1975, p. 67; printed on Bank of Scotland notes, capitalization adjusted). This description indicates that the typical deferment period on the clause was six months with an interest payment of 2.5 percent (annual rate of 5 percent). It also tells us that the notes on which the clause was invoked were marked and signed individually.

The text does not tell us whether the notes on which the clause was invoked were returned to the holders or kept by the bank and returned with interest at the end of the deferment period. In any case, the notes were effectively turned into interest-bearing bonds. “Calculating the gradual accrual of interest on a stamped note would entail

⁶As will be discussed later, the option clause was rarely used to suspend convertibility of all notes as envisioned by its proponents. Banks used it selectively against particular redemption demanders. In that case, the public had the incentive to be first in line because that would start early accrual of interest.

transactions costs probably disqualifying it from continued use as an ordinary medium of exchange. . . . [T]he note would disappear as part of the active circulating medium" (Yeager 1993, p. 322). As argued earlier, this would help the bank achieve favorable clearing at the clearinghouse against other banks. By the same token, the note-holders would begin to use other banks' notes as media of exchange, and the invoking bank would lose its share in the market for banknotes. This could turn out to be a permanent loss if the bank's customers decide to continue with other banks' notes. The cure could become worse than the disease.

Yeager (1993, p. 322) also raises concerns about the macroeconomic consequences of whether and how the sudden increase in the demand for other banks' notes would be met. Alternatively, one must consider the macroeconomic consequences of the sudden fall in the quantity of transaction media. Invocation of the clause turns banknotes into bonds, thus effectively removing them from their use as media of exchange.

Announcement Effect

A bank's exercise of the clause serves as a public announcement of its liquidity problems. In the old days, the announcement might not have spread too far from its headquarters, but today it would be an invitation to all its noteholders to make a run—a run, not to redeem their notes for specie ("note run," as conventionally labeled), but to convert the notes into bonds ("bond run"). They would run to get their notes "stamped" as quickly as possible to trigger the accrual of interest.

The bank can avoid this "bond run" if it simultaneously announces that *all* outstanding notes would accrue interest. The bank then converts its non-interest-bearing liability (notes) into an interest-bearing liability (bonds). In other words, the bank reborrows from its noteholders the full amount of its note liability at the penalty rate of interest. The size of this borrowing may or may not be optimal. The announcement effect of the use of the clause does not allow the bank flexibility in choosing the optimal amount on which to pay the penalty

rate. It is compelled to pay that rate on all its outstanding notes.

Yeager rightly observes:

Modern conditions differ from those of eighteenth-century Scotland. Banks in a temporary liquidity bind have better opportunities for raising funds, as by borrowing on the interbank market, selling liquid securities, and attracting deposits by increasing the interest rate offered. The possibility of obtaining semi-forced loans from noteholders is less important than it once might have been. (1993, p. 322)

Note Runs Turn into Deposit Runs

A note run is an attempt to convert notes into specie, and a deposit run is an attempt to convert deposits into notes. In a free-banking system with private issue of notes, a deposit run generally does not present any significant problem; banks could easily change the form of their liability from deposits to notes. Ultimately what matters is the size, not the composition, of banks' liabilities.

A bank's use of the option clause to control a note run would most likely create a deposit run. The uncertainty about the bank's soundness that caused the note run would also infect its deposits, since people would not want to hold a suspected bank's liabilities in any form. They could withdraw their deposits either by transferring them to other banks or by converting them into notes (which would then become bonds). The transfer of deposits to other banks would lead to severe adverse clearings at the clearinghouse, eventually increasing demands for specie by the other banks. The clause would probably not help the bank at the clearinghouse.⁷ If people convert their deposits into notes, the bank would incur the costs of printing new notes and of "stamping" them. The bank could avoid these costs, and thereby the deposit run, by agreeing to pay the penalty rate on both notes and deposits.

⁷The literature is not clear about whether banks would be able to exercise the clause against other banks at the clearinghouse or whether they did so during the Scottish episode.

The bank ultimately ends up suspending redemption of all its liabilities and paying a penalty rate on them. If the bank had borrowed funds from somewhere else, then it could possibly have met the crisis by reborrowing less than its total liabilities. However, the clause compels it to reborrow the full amount of its liabilities at a penalty interest rate. It is an all-or-nothing decision; the bank cannot make adjustments at the margin.

The proponents seem to think that after invoking the clause and thereby containing the crisis, the bank would continue to carry out its business as usual.⁸ But the logic of the clause would actually require the bank to suspend its transaction services. This suspension puts its customers at great inconvenience by requiring them to find substitute media of exchange on short notice.

Payment of Interest on the Option-Clause Notes

How does a bank actually pay interest at the end of the deferment period on the notes on which it had invoked the clause? The Bank of Scotland was supposed to have paid interest to its noteholders at least three times for the suspensions in 1704, 1715, and 1728. Details on these payments are difficult to find. In the absence of branches, collection of the payment must have been a rather difficult task for noteholders, unless they were located relatively close to the Bank. The overall transaction costs in paying the interest seem substantial in comparison to the average amount of interest payment involved. The costs to the bank are of verifying the notes, counting them, and calculating interest; costs for the noteholders are of safe-keeping of the notes, and then of the travel to the bank. To put some reasonable numbers on this scenario, suppose that an average noteholder with £100 of notes would earn interest of £2.50 for a six-month deferment at 5

⁸In discussing the difference between a bank “holiday” and a limited “restriction” of the type of the option clause, Selgin (1993, p. 358) maintains that “a bank restriction permits the continued use of bank money—checks or notes—in payments, whereas a holiday shuts down the bank-money payments mechanism entirely.”

percent. How favorably does this sum compare with the transaction costs?

Moreover, noteholders (or rather bond holders) would have little incentive to present notes (bonds) to collect interest payment. The notes earn above-market interest, and customers would certainly have found other transaction media during the deferment period. How would the bank “de-stamp” the notes? Why would the customers convert the bonds back into notes?

All these practical problems with the workings of the clause lead one to inquire about the details of its operation during its historic use. Modern free-banking literature is rather silent on the mechanics of the clause in Scotland; it merely asserts its historic usefulness. Was the clause ever actually used as intended by its modern proponents?

The Option Clause in Scotland

The Scottish parliament chartered the Bank of Scotland in 1695 with a legal monopoly in banking and note issue. The monopoly powers expired in 1716 and the business of banking became open to new entrants. The Royal Bank of Scotland acquired its charter in 1727, and from the first day both banks “opened a brisk duel in which the combatants used each other’s notes as missiles” (Munro, quoted in White 1984, p. 25). The Royal Bank collected Bank of Scotland notes against its own and then presented them for redemption. The Old Bank—the Bank of Scotland—suspended convertibility for eight months to put its finances in order. During this time, allies of the Royal Bank brought a suit against the Old Bank for its failure to honor the promise to pay specie. “After much legal wrangling the note holder’s right of ‘summary diligence’ or immediate payment on Bank of Scotland notes—a right stipulated in the bank’s charter—was upheld” (White 1984, p. 26). In response to this new legal environment, the Old Bank for the first time inserted an option clause on its notes in 1730.

The innovation of the option clause was due to a legal and not an economic necessity. Beginning with the first run in 1704, the Old Bank

had acted as if it had the option clause. The Bank suspended convertibility and “set an important precedent by announcing at the time of suspension that all notes would be granted 5 percent annual interest for the period of the delay. . . . The same policy was adopted for the eight-month suspension following a run during the civil unrest of 1715, and again for the eight-month suspension of 1728” (White 1984, pp. 25–26; see also, Gherity 1995, p. 718). The introduction of the clause in 1730 simply legalized what had been a standard practice.

The legal-necessity interpretation of the origin of the option clause gets further support from the case of the Banking Company of Aberdeen. It was established in 1747 and did not include any option clause on its notes (Gherity 1995, pp. 717–18). It suffered a liquidity crisis as it had greatly expanded its note supply. As the bank suspended convertibility, a noteholder petitioned for “summary diligence.” The court denied the petition on the grounds that summary diligence “was enforceable on bills but not on promissory notes such as bank notes” (White 1984, p. 28). The court pointed out that the charter of the Bank of Scotland specified summary diligence on its notes but that requirement did not automatically extend to other banks. In Scotland, according to the court, all banks but the Bank of Scotland could legally suspend convertibility without an option clause. This also explains why no other bank included the clause on its notes until the 1750s.

Gherity, who has consulted contemporary sources, states:

From 1730 until 1752, the Bank of Scotland’s notes were the only ones bearing the option clause, and it remained uninvoked. At that time, two banks that had recently been established in Glasgow, under attack by their Edinburgh rivals, added the clause to their notes where it *remained uninvoked* until 1756. . . . This was during the period of the Seven Years War, when higher taxes imposed to finance the war increased remittances to London. . . . Remittances abroad were further increased by an exceptionally poor harvest in 1756 leading to the importation of £200,000 of foreign grain. (1995, p. 716, emphasis added)

It was only because of the shocks of the Seven Years War and poor harvests that the option clause came into wider use. Even the Royal Bank of Scotland did not imitate its rival's insertion of the clause until the 1750s. This raises an important question: why did banks abstain from including the clause on their notes if it was useful and effective against unexpected demands for redemption?

Shortages of specie and coins in the early 1760s led to a "small note mania"; a large number of smaller banks began issuing small-denomination notes with option clauses. Until then, "most, and perhaps all, of the Scottish banks included no option clause on their smallest notes" (Gherity 1995, p. 717). These "beggarly bankers," as Adam Smith called them, recklessly invoked option clauses, even on small-denomination notes, against routine redemption demands by the public. Mistrust of banknotes increased among the public and it demanded abolition of option clauses.

Outside the turbulent period of the late 1750s and early 1760s, there are few episodes of note duels or bank runs where the clause was actually used as supposed by its modern proponents. The first note duel was in 1727–28, but the Bank of Scotland successfully survived it without the clause. The second major battle was fought in the mid-1750s by the Edinburgh banks (the Bank of Scotland and the Royal Bank) against the Glasgow banks. White summarizes the episode: "The chartered [Edinburgh] banks then allegedly turned jointly to the tactic of note dueling, but their Glasgow rivals survived the assault by a series of *evasive maneuvers*" (1984, p. 28, emphasis added).

Scottish history indicates that these "evasive maneuvers" were actually used regularly and probably effectively. Adam Smith (1911 [1776], pp. 290–91), Meulen (1934, pp. 129–36), and Checkland (1975, pp. 184–86) provide ample evidence on Scottish banks paying only a fraction of the redemption demand in specie, questioning loyalty and patriotism of redemption demanders, using stalling tactics like checking each note and coin methodically, counting them deliberately slowly, giving tellers long and frequent breaks during counting,

and at times, simply refusing to pay specie.⁹ All these maneuvers together seem to have been effective in protecting banks' liquidity. It was better to raise "redemption costs" for noteholders by "evasive maneuvers" than to use the clause. Scottish banks certainly relied on them more commonly and frequently than they relied on the clause.

The Scottish experience leads one to conclude that the option clause "worked" as long as it was rarely included on notes or invoked by banks. When a large number of banks adopted and used it, the banks' customers demanded that it be abolished. Surprisingly, the Scottish banks, the alleged beneficiaries of the option clause, joined the public in demanding rescission of the clause.¹⁰ Gherity (1995, p. 722) states:

By early 1763, the chartered banks had indicated to the government their willingness to give up the option clause in exchange for the exclusive right to issue bank notes in Scotland. . . . Shortly thereafter, the Glasgow bankers submitted a memorial to the Lord Privy Seal advocating the prohibition of the clause and had drafted a pamphlet or article, apparently for publication, blaming all of Scotland's monetary problems on the clause.¹¹

⁹For more details and citations, see Sechrest (1993, pp. 87–88), Dowd (1988, pp. 328–29), and White (1984, pp. 29–31). Gherity (1995, p. 721) informs us that at times banks threatened to call in loans to people who made "unreasonable" demands for specie.

¹⁰Meulen blamed the "paternalistic attitude" of the government for the abolition of the option clause; in order to protect some "fools," the government sacrificed a great innovation in banking (1934, pp. 131ff). Boase charged "exaggerated assertions, fallacious inferences, and ridiculous fears" (quoted in White 1984, p. 30).

¹¹Gherity (1995, pp. 722–24) details the different rationales that led the Edinburgh banks and the provincial (mainly Glasgow) banks to the same conclusion. Notes of the Edinburgh banks were the least suspected by the public since they were the oldest and the largest banks, they acted as the government's bank as taxes and disbursement were channeled through them, and they had the strongest ties with London. They were therefore ready to give up the option clause in exchange for monopoly in the issue of notes. Notes of the provincial

It was argued earlier that the option clause not only helps individual banks during a run but also mitigates the contagion effect. A counterfactual test of the mitigating effect of the clause on the contagion effect came in 1772, after the option clause was banned in 1765. One of the major banks in Scotland, the Ayr Bank, collapsed in 1772. Its crash,

spectacular as it was for its day, did not imperil the Scottish banking system as a whole. . . . Only those private banking houses involved with the Ayr Bank's circulation of bills were brought down. . . . Even this brief run was a new and unexpected circumstance, for nothing of the kind had "occurred" following the failure of one private bank in 1764 or another in 1769. (White 1984, p. 32)

The Scottish free-banking system apparently had mechanisms other than the option clause to effectively handle bank runs and contagion effects.

The option clause, as is evident, was never used by any of the Scottish banks to suspend convertibility of all its notes simultaneously, as is envisioned by its modern proponents. The clause was useful precisely to the extent that banks did not use it for a general suspension of convertibility. The clause allowed banks to *discriminate* among their customers on the basis of their motives for redemption demand. Banks gave specie to "bona fide" noteholders but refused it to "specie lifters," speculators, and agents of rival banks. Ironically, the

banks generally suffered more distrust from the public, but more importantly, they were concerned that in times of crisis, the chartered banks would exercise the option clause and put more strain on their reserves. Some of the provincial banks actually had made their notes payable in notes of the chartered banks. The latter, it seems, were acting as "bankers' banks." The provincial banks were more than happy to take away the right of the chartered banks to use the option clause. Incidentally, these rationales of the banks seem to provide support for the thesis of Rothbard (1988) and Sechrest (1988) that the chartered banks acted as the "bankers' banks" for the smaller banks in Scotland, and the Bank of England performed similar for the chartered banks.

Bank of Scotland acted as the option-clause proponents expected before the inclusion of the clause in 1730; it suspended convertibility of all its notes in 1704, 1715, and 1728.

Acceptance of the Option-Clause Notes

When the Bank of Scotland first offered notes with the option clause in 1730, people readily accepted them. The rival Royal Bank's reminders that its notes were convertible on demand did not affect the demand for Bank of Scotland notes. This is usually interpreted as evidence that the option-clause notes would be generally acceptable to the public (see Dowd 1988, for example).¹² But is the inference valid? If a bank that has the clause printed on its notes offers a greater protection to its noteholders, as the modern proponents argue, then one would expect the public to switch from notes of the Royal Bank (without the clause) to those of the Old Bank (with the clause). This, however, did not happen. Notes of both banks were in such demand that the two banks were the largest in Scotland. One must conclude that the public did not hold notes of the Old Bank because of any perceived advantage of those notes over notes of the Royal Bank.

What then does explain the public's holding of Old Bank notes? Until the early 1750s, the Old Bank was the only major bank that had the option clause. The public accepted its notes because the clause did not really concern them one way or the other. The Old Bank had a long-standing reputation and the clout of a major bank with close ties to London, and it had faithfully paid interest compensation in earlier suspensions even without the clause. During those suspensions, Old Bank notes actually circulated at par. To its noteholders, the introduction of the clause was merely a legal issue, not an economic concern. When other banks without a good reputation adopted and used the clause in the early 1760s, the public demanded it be outlawed. Was

¹²The only question left, according to Dowd, is for banks and the public to figure out a mutually acceptable deferment period and interest compensation.

the public rational in 1730 but irrational in the 1760s? Its response, one must conjecture, was based not on the presence or absence of the clause, but on the reputation and integrity of note-issuing banks.

The Scottish experience does not suggest that the option-clause notes were preferable or acceptable because of their advantages. The public, it seems, did not find much benefit in the option-clause notes of reputable banks, but suffered gravely at the hands of irreputable banks. The experience does tell us that during most of the period in which option clauses were legal, they were rarely invoked, and were never used as envisioned by the modern proponents of the clause.

The Option Clause and the Market for Specie

Dowd (1991, pp. 764–66) argues that the existence of the option clause results in a stabilizing speculation in the market for gold bills. When the spot demand for gold increases, the price of gold bills falls, raising the gold interest rate. As the gold interest rate gets close to the interest rate specified in the clause, banks would invoke the clause and suspend convertibility. At a gold interest rate above the clause rate, banks would start “lending out their gold reserves.” Banks, Dowd maintains, would become sellers of gold instead of buyers, and thus would prevent any further fall in the price of gold bills. The anticipation of a banks’ intervention would limit the divergence of the interest rates and would stabilize the market for gold bills.

Dowd’s argument is internally consistent. One must wonder, though, how banks would become sellers instead of buyers of gold. The price of gold bills begins to fall initially precisely *because* of the increased demand for gold by banks to meet their redemption needs. Whether the increased demand for gold by a bank would lower the price of gold bills depends on the size of the bank’s demand *vis-à-vis* the size of the market for gold. A single bank’s demand for gold is unlikely to raise the gold interest rate above the option-clause rate. If the whole banking system were facing a run, suspension of convertibility would dampen the immediate demand for gold. Even if the gold interest rate had risen above the option-clause rate before the

suspension, it is hard to understand why banks would become net sellers of gold after the suspension. To whom would they be selling gold?

One is obliged to question this whole framework of analysis. It is historically accurate to think in terms of gold bills and gold interest rate, but one doubts whether that framework is relevant for any future free-banking system or the current free-banking theory. It seems more useful to think in terms of the market for gold and the market for loanable funds in exact parallel with banks' increased demand for gold to meet redemptions and for funds to purchase gold. Banks could sell their securities or borrow directly on the market, both of which would raise market rates of interest (not just the gold interest rate).¹³ If market rates of interest rise above the clause rate, banks would most likely invoke the clause. In this framework, suspension of convertibility does not make banks net sellers of gold; rather it makes them less urgent demanders of gold and funds to purchase gold.

Potential Misuses of the Option Clause

A bank could invoke the option clause to protect itself not only against temporary illiquidity but also against insolvency. It could defer redemption to "buy time" and invest in risky but more profitable assets to rescue itself from insolvency.¹⁴ How could noteholders protect themselves against this type of misuse of the clause? Dowd (1991, p. 767) suggests that "if potential noteholders felt that this was a sufficiently serious danger, they could simply refuse to accept the notes, and the banks would have to continue providing fully convertible notes instead." This response begs the question. A noteholder is not choosing between notes with and without the clause, but has already chosen the option-clause notes. The question now is about distinguishing proper from improper use of the clause by banks. How does

¹³A "fire sale" of securities to generate funds for the purchase of gold would lower their prices and raise the interest rate.

¹⁴One is reminded of "zombie" savings and loans of the 1980s.

a noteholder differentiate between illiquidity and potential insolvency of a bank?

Dowd (1991) does suggest a solution: The bank's shareholders accept "extended liability" whenever the clause is invoked. The acceptance of "extended liability" would indicate that the bank does not face insolvency, and would thereby calm the wary noteholders. This solution demands too much from shareholders in order to make noteholders accept the clause. If shareholders are willing to accept "extended liability," and are able to handle the "principal-agent problem" with banks' managers, then they would be far better off by offering "extended liability" generally, and thus providing an overall competitive advantage to their bank.

Difficulties in differentiating situations of illiquidity and insolvency necessitate a more transparent clause. Gorton (1985) explores the possibility of whether any suspension clause would be incentive compatible, that is, a bank would invoke the clause only when it is illiquid but not when it is insolvent. He designs a suspension clause that is incentive compatible by having independent verification of the bank's portfolio. Because of verification costs, banks do not choose to suspend in situations of insolvency but only in those of illiquidity. The traditional option clause, however, does not include this type of verification. Nonetheless, Gorton's analysis indicates that interventions by third parties who can verify the bank's portfolio (clearinghouses, for example) would be more suitable than two-party contracts like the option clause.

Modifications of and Alternatives to the Option Clause

The difficulties with the clause, brought out by analyzing the mechanics of the clause, necessitate consideration of alternative mechanisms to protect banks against temporary liquidity crises. The viable and more effective modifications of the traditional option clause (the one suggested by its modern proponents) will be discussed and then some alternatives to the clause will be offered.

The traditional option clause focuses only on specie and banknotes and on banks and noteholders, and tries to solve the problem without involving any other party. As discussed earlier, a simple suspension of the convertibility of notes into specie does not solve the problem; it causes bond runs and deposit runs, and thwarts people's attempts to convert their notes and deposits into higher interest-bearing assets, and to transfer their deposits to other banks. A better way to deal with sudden large demands for redemption is not to suspend convertibility, but to offer more options to noteholders and to transfer the problem from its door—with hordes of poorly informed, clamoring customers—to a place where the bank is better able to negotiate and decide among its various alternatives.

In a bank run, customers of a bank are not particularly interested in specie but in avoiding capital losses. The bank should do everything possible to make it easy for its customers to avoid those losses. The bank could offer to convert its notes into notes of other banks that are convenient and acceptable to its customers. A better modification would be to promise conversion of its notes into transferable deposits with other reputable and convenient banks. There is no reason to limit these new types of option clauses to notes. They can apply this equally to deposits. Inclusion of deposits would diminish any chance of bond runs and deposit runs.

The modified option clause is a promise to convert any and all liabilities into any asset, other than specie, that the bank's customers desire. The modified clause may be labeled as the "comprehensive option clause." It does not suffer from the drawbacks of the traditional option clause. There is no need to mark and sign the notes, no need to worry about the transactions costs of paying interest at the end of the deferment period, and no inconvenience to noteholders of finding alternative media of exchange on short notice. The comprehensive option clause does not require noteholders to differentiate between banks' proper and improper use of the clause. Irrespective of the banks' intentions in using the clause, noteholders would be able to protect themselves with little effort.

More importantly, by exchanging notes with those of other banks and by transferring deposits to them, the bank would divert the problem from its door to the clearinghouse. It would be easier and better for the bank to deal with the clearinghouse, other prominent banks, or finance companies rather than with large numbers of scantily informed and suspicious customers. The comprehensive option clause is also incentive-compatible in the sense of Gorton (1985). It necessitates intervention and verification by third parties to solve the problem of redemption between the bank and its customers.

The comprehensive clause would not have to be printed on notes; it could simply be included in the bank's charter. One may even view it not as a modification, but as an alternative to the traditional option clause. The necessity of third-party involvement makes it categorically different from the traditional clause, and it provides a more effective means to deal with liquidity crises.

A crucial element in the comprehensive clause is the clearinghouse. Even under a mature free-banking system, noteholders and depositors would generally find it difficult to quickly distinguish between problems of illiquidity and insolvency confronting a bank. Reputable third parties could help customers distinguish between those two problems, and thereby provide an orderly resolution of the crises. Clearinghouses are obvious candidates since they are the most likely third parties to possess the necessary information about the bank in trouble. As Timberlake (1984) and Gorton and Mullineaux (1987) document, clearinghouses in the recent past have engaged in "the joint production of confidence" by providing guarantees, loans, and their own currencies (certificates). Clearinghouses, however, would not be the sole source of such information in a mature free-banking system. Bank-rating agencies which would render overall "soundness rating" of banks, or agencies rating banks' ability to redeem their liabilities—"liquidity rating"—would also provide independent information to the banks' customers.

The issue of liquidity crisis arises only in a system with directly convertible notes, convertible either on demand or with deferment.

The alternative system of "indirect convertibility" obviously avoids the whole problem (Yeager 1985; Greenfield and Yeager 1983).

A Conjectural History of the Option Clause

Introduction of the option clause in eighteenth-century Scotland was a good initial response to unexpected, large increases in redemption demands. Until the turbulent years of the mid-1750s, the Bank of Scotland was the only major bank with the clause on its notes. The fact that rival banks did not use it and the public did not shy away from those rival banks strongly suggests that the clause was considered of little value by banks and the public. The modern proponents assume that after suspending convertibility of notes, the bank would be able to continue to provide its transaction services—notes and deposits of the bank would continue to be used as media of exchange. At least in Scotland, the clause was never used for general suspension of convertibility. As shown earlier, liabilities of the bank that invoked the clause would hardly stay in circulation. The little protection the clause provided to Scottish banks was because it allowed banks to discriminate among redemption demanders.

How would the clause have evolved if the free-banking system had been allowed to mature under *laissez-faire*? It would have become difficult for banks to invoke the clause discriminately. As more banks adopted the clause and as it came into use as envisioned by the modern proponents, the drawbacks that have been emphasized in this paper would have come into play. Banks would have looked for more viable alternatives and would have adopted any of the modified versions of the traditional clause, including ultimately, the comprehensive option clause. To implement the comprehensive clause, banks would have made prior arrangements and agreements with other banks and financial institutions. Such stipulated cooperation would have played an important role in the banks' efforts to earn the public's confidence. During a time of crisis, banks would ask their partners to publicly reiterate the commitments and such reiteration, or the lack thereof, would provide useful information to customers.

In discussing how banks in the United States prior to the War Between the States dealt with liquidity crises, Selgin (1993) points out that not only did banks agree to accept each other's notes at par, but that they also made agreements which involved

provisions for regular note exchange with interest charged on accumulated balances in lieu of immediate settlement as well as stipulations limiting loan expansion for the duration of the restriction. In some cases new deposits were accepted on the understanding that the depositor could receive payment of checks or drafts in notes but not in specie, and merchants formally agreed to continue receiving bank notes at par. (p. 357)

A system with mutual commitments among individual banks certainly seems sustainable. But intense rivalry, moral hazard problems, difficulties in enforcing such commitments, and a fear of the emergence of a dominant bank would necessitate a move toward a joint responsibility of all banks in producing confidence.¹⁵ Clearinghouses would then come to play an important independent role in mitigating temporary liquidity crises of their members. Guarantees and loan certificates by clearinghouses would prevent the aggravation of bank runs and banking panics.

Whether the *laissez-faire* evolution would have ultimately resulted in a system of indirect convertibility is an interesting question. The evolution of the traditional option clause into the comprehensive clause does suggest a way through which a system with direct convertibility could move toward one with indirect convertibility. The comprehensive clause allows banks to redeem their liabilities—notes and deposits—for other banks' liabilities or for any other financial asset that is acceptable to their customers. General

¹⁵Goodhart (1988) elaborates on these types of arguments. His focus is on explaining the "evolution" of central banking, where the arguments do not completely succeed. His arguments nevertheless are relevant to the point that is being developed here.

acceptance of the practice of redeeming the banks' liabilities for other financial assets could become a first step toward the evolution of a banking system with indirect convertibility. An expanded role of independent clearinghouses in dealing with liquidity crises would help continue that evolution.

In conclusion, several drawbacks undermine the claim that the option clause is an effective and desirable mechanism for creating a stable free-banking system. Though it is important for fractional reserve banks to develop a means to tackle sudden demands for redemption, the traditional clause does not meet the challenge. Modifications of the traditional clause, clearinghouse guarantees and certificates, and a system with indirect convertibility seem to provide more suitable mechanisms and arrangements.

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AGAINST FIDUCIARY MEDIA

HANS-HERMANN HOPPE

WITH JÖRG GUIDO HÜLSMANN AND WALTER BLOCK

Almost all contemporary Austrian economists are united in their opposition to central banking and their advocacy of a system of free competitive banking. However, a vigorous debate has arisen over the precise meaning of “free competitive banking.” Does “free banking” require 100 percent reserve deposit banking, or does it allow or even require fractional reserve banking? In a recent article that appeared in the *Review of Austrian Economics*, George A. Selgin and Lawrence White (1996), the two most prominent contemporary Austrian proponents of “free banking” as fractional reserve banking, have undertaken a systematic attempt to answer their numerous Austrian critics and defenders of 100 percent reserve deposit banking.¹

Against the charges made by their critics, Selgin and White try to establish two theses. First, they claim to show that the practice of fractional reserve banking, that is, the issue of fiduciary media, does not constitute fraud but is justified by the principle of freedom of contract, and in particular they contend that fractional reserve banking is in accordance with the title-transfer theory of contract as developed by Murray N. Rothbard (such that Rothbard, who holds that fractional reserve banking is fraudulent, must have failed to grasp his own theory). Second, they attempt to show that the creation of fiduciary media does not of necessity lead to economic inefficiencies and discoordination but may actually help prevent an otherwise unavoidable

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¹Selgin and White (1996, pp. 83–107). All page numbers in the text reference this article.

Curiously, in the reply to their various critics, Selgin and White selected as their central target an article by Hoppe (1994) that deals only cursorily with their position. Other Austrian critics of fractional reserve banking explicitly dealt with in Selgin and White's article including Block (1988) and de Soto (1995). Murray N. Rothbard, the most prominent critic of fractional reserve banking, is targeted only indirectly; and although several of his works are mentioned in their bibliography, Rothbard's later writings on the subject (1988; 1992; 1995) are not mentioned. Likewise ignored entirely are the criticisms by Salerno (1991a; 1991b; 1993). Selgin and White also do not address, and in this case could not have done so, the most recent and most extensive criticism of their work by Hülsmann (1996).

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crisis and thus improve economic performance. In the following, we will demonstrate that neither the central normative claim nor the secondary positive claim is established.²

**THE ISSUE OF FRAUD I:
MONEY, MONEY SUBSTITUTES, FIDUCIARY MEDIA,
AND THE TITLE-TRANSFER THEORY OF CONTRACT**

In order to resolve the question of whether or not fractional reserve banking constitutes fraud, from the outset a few factual assumptions and terminological issues will have to be clarified. Fortunately, almost complete agreement on these matters exists on both sides of the debate, and thus we can be extremely brief. Money cannot but originate as a commodity, such as gold. Gold, then, as money, is defined as “the generally acceptable medium of exchange,” and as such is uniquely characterized by its “supreme salability in comparison with all other assets” (such that its “possession puts one in the position of being able to make any potential purchase with minimum inconvenience”) (White 1989, p. 247). Money substitutes, in turn, are defined as claims or titles to specified amounts of money (gold). If money substitutes (paper notes) are fully covered by reserves of money (gold), Mises denotes them “money certificates,” and we will refer to them here simply as money substitutes. If money substitutes (paper notes) are uncovered by money (gold), they will be referred to as fiduciary media instead.³

²As a doctrinal matter, Selgin and White also suggest that their view of fractional reserve banking coincides with Ludwig von Mises’s view; hence, they call themselves Misesians (and claim it is the defenders of 100 percent reserve banking who are deviationists). This claim can be rejected. In fact, Selgin (1998, pp. 60–63) has frankly acknowledged that Mises’s and his own views concerning fiduciary media are contradictory, and White’s attempt to claim Mises as a proponent of fractional reserve free banking has been addressed by Salerno (1993). Here it suffices to provide a quotation from Mises (1978, pp. 438, 448):

The main thing is that the government should no longer be in a position to increase the quantity of money in circulation and the amount of checkbook money not fully—that is, 100 percent—covered by deposits paid in by the public. . . . No bank must be permitted to expand the total amount of its deposits subject to check or the balance of such deposits of any individual customer . . . otherwise than by receiving cash deposits . . . or by receiving a check payable by another domestic bank subject to the same limitations. This means a rigid 100 percent reserve for all future deposits; that is, all deposits not already in existence on the first day of the reform.

See also notes 7, 14, 22, 27, 28 below.

³See Salerno (1994, p. 76). Selgin and White highlight the fact that Hoppe referred to them as proponents of “partial fiat money,” but then are ultimately compelled to admit that he did in fact not misrepresent their position as advocates of fractional reserve banking based on an underlying gold standard. Their complaint amounts to no more than a dispute over semantics. We will treat it as such here, too, and will concentrate instead exclusively on substantive disagreements.

There is actually more to the charge of Selgin and White being fiat money advocates in the article under scrutiny. For, in “the mature free-banking system,” according to Selgin and White (but in contrast to the analysis of the operation of such a system given by Mises), a situation is supposed to emerge in which

at the limit, if inter-clearinghouse settlements were made entirely with other assets (perhaps claims on a super-clearinghouse which itself holds negligible commodity money),

Based on these assumptions and definitions, we can now turn to the question of whether or not the issue of fiduciary media constitutes fraud. Fortunately, the discussion of this issue is facilitated by the fact that Selgin and White explicitly accept the Rothbardian title-transfer theory of contract. That the issue of fiduciary media is inherently fraudulent, as Rothbard and Hoppe claim, Selgin and White find

impossible to reconcile with Rothbard's . . . title-transfer theory of contract, which we accept, and which Rothbard otherwise uses to defend the freedom of mutually consenting individuals to engage in capitalist acts with their (justly owned) property. Rothbard . . . defines fraud as "failure to fulfill a voluntarily-agreed-upon transfer of property." Fractional-reserve arrangements cannot then be *inherently* or *inescapably* fraudulent. Whether a particular bank is committing fraud by holding fractional reserves must depend on the terms of the title-transfer agreement between the bank and its customers. (pp. 86–87)

Whether it is fraudulent to hold fractional reserves against a bank liability does not depend *per se* on whether it is a demand or time liability, but only on whether the bank has misrepresented itself as holding 100 percent reserves. The demandability of a particular claim issued by a bank, that is, the holder's contractual option to redeem it at any time, is not *per se* a representation that the bank is holding 100 percent reserves against the total of its demandable claims. Rothbard . . . argues otherwise, based on the view that a bank's demand deposits are necessarily "warehouse receipts" and not debts. We do not see why bank and customer cannot contractually agree to make them debts and not warehouse receipts, and we believe that historically they have so agreed. (p. 87, n. 8)

While this may sound plausible at first glance, it does not withstand serious scrutiny. In fact, the quoted passage reveals that the most basic lesson concerning property and contract has been overlooked. As Hoppe (1994, p. 67) formulated it, "two individuals cannot be the exclusive owner of one and the same thing at the same time."⁴ This is an immutable principle; it is a law of action and nature that no contract can change or invalidate. Rather, any contractual agreement that involves presenting two different individuals as simultaneous owners of the same thing (or alternatively, the same thing as simultaneously owned by more than one person) is

and if the public were completely weaned from holding commodity money, the active demand for the old-fashioned money commodity would be wholly nonmonetary. (White 1989, p. 235)

Thus, notes Salerno (1994, p. 76, n. 7) regarding Selgin and White's ultimate objective, "the public would presumably finally be freed from its shackles of gold to enjoy the virtues of an invisible-hand-generated private fiat money." Moreover, as far as semantic innovations and deviations from orthodox Misesian terminology, and hence potential sources of confusion are concerned, we have to consider Selgin and White's own writings. For in referring to money and money substitutes as "outside" and "inside" money respectively, in talking of "base money," "basic money," "bank money," "high-powered" and "low-powered" money, and, yes, the gold dollar "as a substitute for bank deposits," they display an unusual degree of semantic creativity. Moreover, in suggesting, by their selection of terms, that all of these things are somehow equally "money," their writings actually have become a source of obfuscation. See on this Hülsmann (1996, p. 5ff).

⁴It is also "impossible that some time depositor and borrower are entitled to exclusive control over the same resources" (Hoppe 1994, p. 67).

objectively false and thus fraudulent.⁵ Yet this, precisely, is what a fractional-reserve agreement between bank and customer involves.

In issuing and accepting a fiduciary note (at a necessarily discounted price), both bank and customer have *in fact*, regardless of whatever they may believe or think about the transaction, agreed to represent themselves—fraudulently—as the owner of one and the same object at the same time. They have in fact contracted to create additional titles and claims to the same existing quantity of property. In issuing fiduciary notes, they do not—and cannot—bring more property into existence. Indeed, no contract whatsoever can possibly increase the existing quantity of property, but can only transfer (redistribute) existing property from one person to another. The quantity of existing property can only be increased through additional appropriation and production (and a thus enlarged quantity of property can in turn lead to a correspondingly increased number of titles to property). But fractional reserve banking and the issue of fiduciary media, while it does not and cannot increase the amount of property in existence, also does not involve (as all other contracts *do*) a transfer of existing property or titles to existing property from one hand to another. Neither does the issue and acceptance of a fiduciary note signify a transfer of property from bank to client or *vice versa*. To be sure, as the result of a fiduciary issue, the distribution of assets and liabilities in the accounts of bank and client is altered. But no existing quantity of property is actually transferred from bank to client, or *vice versa*, and the total quantity of property in existence has remained unchanged. Rather, fiduciary media represent new and additional titles to or claims on an existing and unchanged stock of property. They are not the result and documented outcome of an additional supply of property on the part of the bank or its client. Instead, they represent an additional supply of property *titles*, while the supply of *property* has remained constant. It is precisely in this sense that it can be said of fiduciary media that they are created out of thin air. They are property-less titles in search of property. This, in and of itself, constitutes fraud, whether according to Rothbard's definition of the term as "a failure to fulfill a voluntarily-agreed-upon transfer of property" or according to Selgin and White's own definition of it as "a *willful* or *deliberate* deception for purposes of gain." Each issuer and buyer of a fiduciary note (a title to money uncovered by money), regardless of what he may believe, is in fact—objectively—engaged in a misrepresentation for the purpose of personal gain. The bank and its client have consented to misrepresent themselves as the owners of a quantity of property that they do not own and that plainly does not exist; and whenever they buy an existing quantity of property in exchange for titles to a non-existing quantity of property, they have become invariably and inescapably guilty of an act of fraudulent appropriation.⁶

⁵Even partners cannot simultaneously own the *same* thing. A and B can each own half of a household, or half the shares in it, but they each own a *different* 50 percent. It is as logically impossible for them to own the same half as for two people to occupy the same space. Yes, A and B can both be in New York City at the same time, but only in different parts of it.

⁶De Soto (1995, p. 33) correctly likens the effect of fractional reserve banking to that of the so-called tragedy of the commons. Selgin and White (pp. 92–93, n. 12) object to de Soto's analogy on the ground that the tragedy of the commons refers "to a particular sort of technological externality,"

Selgin and White's failure to recognize this, and their belief in the ethical innocence of fractional reserve banking, is due to two confusions. On the one hand, as has already been indicated, they do not recognize that no object—and no quantity of money (gold)—can be owned by more than one party at a time and that no contract can possibly increase the quantity of property in existence, and thus that any pretension to the contrary is inherently fraudulent. On the other hand, and intimately related, Selgin and White do not recognize the fundamental praxeological difference between property and property titles. Rather, in subsuming money (gold) and money substitutes (banknotes) under the same heading of "money," they continually obfuscate this very distinction. For if money (gold) and titles to money (banknotes) are both defined as "money," then it indeed seems to follow that it does not make any difference whether the supply of money or that of banknotes increases. Both are "money" and hence, by definition, in both cases the same event—an increase in the supply of money—has taken place. But this does not alter the facts; it only defines them out of existence.

Of course, as Selgin and White correctly note, everyone is free to adopt any definition and make any distinction that he wishes. Yet definitions do not create real distinctions; they can, though, make them disappear. They can only either reflect such distinctions or else ignore and confuse them; and clearly, to refer to both money and money substitutes indiscriminately as money is to obscure the difference between two categorically—praxeologically—distinct phenomena and states of affairs. A title to money and an increase of titles is not the same thing as money and an increase of money. Rather, unlike an increase in the quantity of money (gold) or an increase of titles backed by a corresponding increase of money, any increase in the quantity of titles to money unaccompanied by an increased quantity of money necessarily implies that one and the same quantity of money is owned by more than one person at the same time; and since such a thing is physically impossible—the quantity of money is unchanged and all existing money must be presently owned by someone—every redemption of a fiduciary title, then, be it into money or any other form of real property, involves an act of illicit appropriation.

according to Selgin and White, involves "a physical or otherwise direct interference with someone's consumption or production" and represents "interaction outside the market." In contrast, write Selgin and White, the "externality from fiduciary media" is a harmless pecuniary "effect on someone's wealth transmitted via the price system," that is, through changes in the system of relative prices, and represents "an interdependence through the market." Selgin and White err: an object and a title to an object are not the same thing.

In lumping money and money substitutes together under the joint title of "money," as if they were somehow the same thing, Selgin and White fail to grasp that the issue of fiduciary media—an increase of property titles—is not the same thing as a larger supply of property and that relative price changes effected through the issue of fiduciary media are an entirely different "externality" matter than price changes effected through an increase in the supply of property. With this the fundamental distinction between property and a property title in mind, de Soto's analogy between fractional reserve banking and the tragedy of the commons makes perfect sense. As under the scenario of a tragedy of the commons, every issue of fiduciary media—to titles in search of property—sets in motion a rush, always starting with the bank and its client, to fill these empty tickets with existing property; and in the course of this rush, invariably the firstcomers will physically enrich themselves (through the appropriation of existing quantities of property) at the expense of a corresponding impoverishment of latercomers, whose quantity of existing property is physically diminished while they have been left with a larger number of property tickets.

Assume there exists both property itself and property titles (notes). Besides property in consumer goods, producer goods, and money, titles to consumer goods, titles to producer goods, and titles to money are assumed to exist. The origin of property titles in addition to the existence of property itself promotes legal certainty and reduces and facilitates legal disputes, and hence undoubtedly represents a beneficial (natural) development. Moreover, it allows for two innovations. On the one hand, it becomes possible to separate the act of transferring ownership in property from the act of transferring its possession. That is, it becomes possible to surrender or acquire ownership in objects without simultaneously surrendering or acquiring possession, disposition, and control of the very same objects. Applied to money it becomes possible that, all the while the ownership of existing quantities of money (gold) can change constantly from one person to another, the entire quantity of money may remain—unchangingly—in the hands of one and the same bank (as the manager of money owned by others). On the other hand, with the development of property titles, intertemporal exchanges will be systematically facilitated. Existing (present) property or titles thereto may be transferred in exchange against titles to future property (debt claims); and hence it will be also assumed that next to titles to existing property (consumer goods, producer goods, and money), titles (debt claims) to future consumer goods, future producer goods, and future money exist and are traded as well.

In light of these developments, the following transactions (contracts) between any two parties A (bank client) and B (bank) are possible. A may transfer his money (gold) into B's disposition and thereby either (1) *not* give up his ownership in it, or (2) *give* up his ownership. There is no third *possibility*. If (1), then A keeps the title to the sum of money transferred to B; B does not have title to it, but acts as a money warehouse (a bailee) for A (as a money bailor). *There is no third possibility*. If (2), then B acquires the title to the quantity of money put into its disposition by A; A receives from B in exchange either (a) a present—existing—quantity of consumer and/or producer goods previously possessed and owned by B; or (b) a title to a present—existing—quantity of consumer and/or producer goods in B's possession (but owned now by A) (an equity claim); or (c) a title to a quantity of *future* consumer and/or producer goods and/or money (a debt claim). *Again, there is no third possibility*. That is, A cannot both retain ownership of this property *and* transfer it to B.

Among all possible transactions, not one would result in the issue of a fiduciary note. Fiduciary media, according to Selgin and White's own definition, are "that portion of redeemable money substitutes backed by assets other than base money" (p. 85). There are money (gold) and money substitutes (titles to money) in existence, and there are titles to non-money goods (equity titles), and titles to not-yet-existing future goods (debt claims). Apparently, however, no such thing as "money substitutes backed by assets other than base money" would arise out of any of these transactions. Selgin and White *assume* the existence of fiduciary media (and they simply *assume* that the absence of fiduciary media must be the result of legal restrictions), but they do not provide a praxeological explanation and reconstruction of the origin of such a peculiar entity and state of affairs. Rather, they only ask, why not? "We do not see why bank and customer cannot contractually agree to make them [that is, demand deposits and banknotes] debts and not warehouse

receipts." *Why is it that there can—and should—be no money substitutes backed by assets other than money? For the same reason that there can and should be no car or house titles backed by assets other than cars or houses, that there can and should be no equity titles backed by assets other than equity, and that there can and should be no assets—money, equity, or debt—owned (backed) by more than one person at a time. Titles to money are—and should be—backed by money in the same way and for the same reason as titles to cars are and should be backed by cars. This is what defines them as property titles. It is in accordance with and a reflection of the nature of property and property titles. In distinct contrast, a title to money backed by assets other than money is a contradiction in terms, and its issue and use involves the same sort of objective misrepresentation as the issue of a title to a car backed by assets other than a car (parts of planes and bikes, for instance).⁷*

The answer to why fractional reserve agreements are ethically impermissible, and why there can be no contracts to make warehouse receipts debt, is that such agreements and contracts contradict (deny) the nature of things. Any such contract is from the outset—a priori—invalid. Selgin and White try to get around this inescapable conclusion by adopting, wittingly or not, an ultra-subjectivist view of contracts and agreements. According to this view, the very fact that a voluntary agreement is

⁷Similar logic-semantic confusions are at work when Selgin and White try to reduce the difference between demand and time liabilities to one of degree rather than kind (p. 90). Explains Selgin (1988, p. 62): "Holders of demand liabilities are granters of credit just as are holders of time liabilities. The only difference is that in the former case the duration of individual loans is unspecified; they are 'call loans' that may mature at any time"; and "Mises," who holds the opposite view, "confuses a difference of degree with one of substance." In fact, it is Selgin who is confused.

To be sure, one might say that it is only a matter of degree whether a loan (of a car or of money) matures in an hour, a day, a week, or a month. Just as surely, however, this does not change the categorical distinction between present—existing—goods and not (yet) existing future goods. At any point in time, a car or a sum of money (gold) either exists or it does not exist. Nor does it alter the praxeological datum that no one, at any time, can act with anything except present goods. Future goods are the goal of actions, but in order to attain them, every actor must first invariably employ present means (goods). Nor does Selgin's observation concerning degrees of time affect in the slightest the fundamental human condition of scarcity. The supply of present goods is at all times limited, and the limited quantity of present goods limits in turn the quantity of possible future goods.

Whereas Mises recognizes the distinction between present goods and future goods as a universal praxeological category, Selgin's attempt to conflate demand and time deposits (thus distinguish himself fundamentally from Mises) implies a denial that there is no such fundamental difference between present (existing) goods and future (not-existing) goods (or that their existence differs only in degrees). Contrary to Selgin, it is not a matter of degree but rather one of substance whether a car or a sum of money presently exists or not, and whether one person or someone else owns them. Either they exist or they don't exist, and either A owns them or someone else does. Accordingly, if a property title (demand deposit note) then states that one person is the owner of a present car or present money and no car or money exists, or the car or money is presently owned by someone else, this does not represent a degree of truth but a falsehood. Explains Mises (1978, p. 268):

A depositor of a sum of money who acquires in exchange for it a claim convertible into money at any time which will perform exactly the same service for him as the sum it refers to has exchanged no present good for a future good. The claim that he has acquired by his deposit is also a present good for him. The depositing of money in no way means that he has renounced immediate disposal over the utility it commands.

See also the two following notes.

reached and/or a contract is concluded demonstrates that it must be a valid—true or permissible—agreement and contract. Yet this view is not only false it is also incompatible with Rothbard's title-transfer theory of contract that these authors claim to have accepted. Agreements and contracts per se do not imply anything regarding their validity for the fundamental reason that agreements and contracts do not create reality, but rather presuppose it. More specifically, contracts do not bring property into existence, but rather recognize and transfer existing property. Hence, as in Rothbard's ethical system, the theory of property must precede the treatment of contracts. Contracts and contract theory presuppose and are constrained by property and property theory. That is, the range of possible (valid) contracts is limited and restricted by the existing quantity (stock) of property and the nature of things, rather than the other way around. Thus, agreements regarding flying elephants, centaurs, squared circles, of perpetui mobile, for instance, are invalid contracts. They cannot—by virtue of biological, physical, or mathematical law—be fulfilled, and are from the outset false and fraudulent.

While Selgin and White may acknowledge this, they fail to recognize that a fractional reserve banking agreement implies no lesser an impossibility and fraud than that involved in the trade of flying elephants or squared circles. In fact, the impossibility involved in fractional reserve banking is even greater. For, whereas the impossibility of contracts regarding flying elephants, for instance, is merely a contingent and empirical one (it is not inconceivable that in another possible world, somewhere and sometime, flying elephants may actually exist, thus making such contracts possible), the impossibility of fractional reserve banking contracts is a necessary and categorical one. That is, it is inconceivable—praxeologically impossible—that a bank and a customer can agree to make money substitutes (banknotes, demand deposit accounts) debts instead of warehouse receipts. They may say or certify otherwise, of course, just as one may say that triangles are squares. But what they say would be objectively false. As triangles would remain triangles and be different from squares, so money substitutes would still be money substitutes (titles to present money) and be distinct from debt claims (titles to not yet existing future goods) and equity claims (titles to existing property other than money). To say otherwise does not change reality but objectively misrepresents it.

In doing what Selgin and White believe clients and banks to have done—to agree to make warehouse receipts debt—the money depositor A receives from the bank B a claim to present *money*, rather than a debt or equity title. That is, A does *not* in fact give up ownership of the deposited money (as would have been the case if he had received a debt or equity claim from B). While A retains title to the money deposit, however, B does not treat A's deposit as a bailment, but rather as a loan, and enters it as an asset onto its own (B's) balance sheet (offset by an equal sum of outstanding demand liabilities). While this may appear initially to be merely a harmless accounting practice, it involves from the outset a misrepresentation of the real state of affairs.⁸ Since both, B as well as A, count the same quantity of

⁸See on this point Rothbard (1983b). "How," asks Rothbard,

do these warehouse receipt transactions relate to the T-account balance sheets of the deposit banks? In simple justice, not at all. When I store a piece of furniture worth \$5,000 in

money simultaneously among their own assets, they have in effect conspired to represent themselves in their financial accounts as owning a larger quantity of property than they actually own: that is, they have become financial impostors.⁹ Though fraudulent, this would not matter so much if everything were left at this. However, as soon as B acts as if things were the way he represents them on his balance sheet to be—as if the bank owned the deposited money and only had the obligation to redeem outstanding warehouse receipts on demand—mere misrepresentation is turned into misappropriation. If B, in accordance with this misrepresentation, lends out money, or more likely, issues additional warehouse receipts for money and lends these out to some third party C, in the expectation of eventually being repaid principal and interest, the bank becomes engaged in undue appropriation, because what it lends out to C—whether money or titles to money—is in fact not its (B's) own property but that of someone else (A). It is this fact—that the title transferred from B to C concerns property B does not own—that makes fractional reserve banking from the outset fraudulent.

It is not the case, as is claimed, that fraud (breach of contract) is committed only if B, the fractional reserve bank, is actually unable to fulfill all requests for redemption as they arise. Rather, fraud is also committed each time B does fulfill its redemption obligations. Because whenever B redeems a fractionally covered banknote into money (gold) (whenever a note holder takes possession of his property), it does so with someone else's money: if B redeems C's note, it does so with money owned by A, and if A wants his money too, B pays him with money owned by D, and so on. *Qua* defenders of fiduciary media and fractional reserve banking, Selgin and White would have to maintain that there is no breach of contract as long as B is able to fulfill its contractual obligations with *someone else's* property (money).

warehouse, in law and in justice the furniture does not show up as an asset of the warehouse during the time that I kept it there. The warehouse does not add \$5,000 to both its assets and liabilities because it in no sense owns the furniture; neither can we say that I have loaned the warehouse the furniture for some indefinite time period. The furniture is mine and remains mine; I am only keeping it there for safekeeping and therefore I am legally and morally entitled to redeem it any time I please. I am not therefore the bank's creditor; it doesn't owe me money which I may some day collect. Hence, there is no debt to show up on the Equity + Liability side of the ledger. Legally, the entire transaction is not a loan but a bailment. (pp. 88–89; also pp. 94–95)

Interestingly, while Selgin and White manifest a strong positivistic tendency (fractional reserve banking is recognized by the courts, so it must be all right; on this tendency see "The Issue of Fraud III" below), they do not come to terms with legal reality. For if money deposits are debt, why, then, don't the courts apply the same reasoning to all other fungible commodities such as wheat? Why are wheat warehouse receipts not considered a debt (but a bailment) by the courts? Why is this treatment peculiar to money and the banking business? Moreover, why is it that the courts, even if they falsely consider money deposits as debts, still insist that they are more than an ordinary debt, and the depositor's relation to the bank is not identical with that of an ordinary creditor? See Rothbard (1983, p. 275).

⁹See also Jevons (1905, pp. 206–12, 221), who lamented the existence of general deposits since it has "become possible to create a fictitious supply of a commodity, that is, to make people believe that a supply exists which does not exist." On the other hand, special deposits, such as "bills of lading, pawn-tickets, dock-warrants, or certificates which establish ownership to a definite object," are superior because "they cannot possibly be issued in excess of the good actually deposited, unless by distinct fraud." And Jevons concluded that "it used to be held as a general rule of law, that a present grant or assignment of goods not in existence is without operation."

Yet this is patently wrong, and it stands in clear contradiction to Rothbard's title-transfer theory of contract that Selgin and White claim to have accepted. In accordance with Rothbard's contract theory, individuals are only entitled to make contracts regarding the transfer of *their own property*. In contrast, fractional reserve banking, by its very nature (even if it is practiced successfully), involves contracts concerning the transfer of *other people's property*. Hence, this practice—the issue of fiduciary media—is in principle (inherently) incompatible with the title-transfer theory of contract—and it turns out, not surprisingly, that it is Rothbard, and not his two interpreters, who ultimately demonstrates a better grasp of his own contract theory.

THE ISSUE OF FRAUD II: FRACTIONAL RESERVE BANKING AND FREEDOM OF CONTRACT

Murray Rothbard's classification of fractional reserve banking as fraud was the result of long and intensive study of ethics and property-rights theory in particular. Selgin and White rightly regard economics as intellectually independent and separate from ethics. It may be studied without any prior knowledge of property and property-rights theory. Yet they do not hesitate to make sweeping ethical pronouncements. In their moral defense of fractional reserve banking Selgin and White rarely mention property, let alone outline a theory of property. This results in a series of fundamental errors and problems: confusion regarding the distinction between property and property titles; confusion as to the (im-)possibility of something (property) being owned simultaneously by more than one owner; confusion concerning the logical priority of property and property theory vis-à-vis contract and contract theory; and confusion concerning the necessity of fulfilling one's contractual obligations with one's own property (not just anyone's).

These difficulties enter into the authors' discussion of the issue of "freedom of contract." Their argument is straightforward.

If a bank does not represent or expressly oblige itself to hold 100 percent reserves, then fractional reserves do not violate the contractual agreement between the bank and its customer. . . . Outlawing voluntary contractual arrangements that permit fractional reserve-holding is thus an intervention into the market, a restriction on the freedom of contract which is an essential aspect of private property rights. (p. 87)

This passage reveals again Selgin and White's already noted ultra-subjectivism. According to this view, it is voluntary agreements that make for—constitute and define—a valid contract. However, valid contracts are agreements regarding the transfer of real property; hence, the range of valid contracts is in fact first and foremost constrained by the nature of things and property (and only then by agreement). It was thus that Hoppe (1994, p. 70) explained that

freedom of contract does not imply that every mutually advantageous contract should be permitted. . . . Freedom of contract means instead that A and B should be allowed to make any contract whatsoever *regarding their own properties*, yet fractional reserve banking involves the making of contracts regarding the property of third parties.

Selgin and White refer to this charge somewhat misleadingly as "third-party effects" (p. 92) and counter it by charging Hoppe in turn with elementary confusion as regards the nature of property and property rights. They state first, that

spill-overs from others' actions to the *value* of C's property . . . are an inescapable free-market phenomenon, and are not a violation of C's private-property rights, [whereas] *physical invasions* of C's property . . . are of course inconsistent with the protection of C's property rights. It should be obvious that if A and B are barred from any transaction that merely affects the *market value* of C's possessions, without any physical aggression or threat against C or C's rightful property, then the principles of private property, freedom of contract, and free-market competition are completely obliterated. Is B to be barred from offering to sell compact disc recordings to A, merely because doing so reduces the market value of C's inventory of vinyl records? (pp. 92–93)

Second, they state that the reduction of the purchasing power of money, which they admit must result from every issue of fiduciary media, is as such a harmless value-effect and thus "provides no justification for legally barring the bank's action." Hence they conclude that Hoppe's argument is "invalid" (and incompatible with Rothbard's theory of property).

Selgin and White's counterargument contains two errors. First, while the major premise is correct, it is false that Hoppe is mistaken about it. Hoppe has written extensively on the theory of property rights, and is not only aware of the distinction mentioned by Selgin and White but even provides a praxeological defense of it; hence, in this regard no difference of judgment whatsoever between Rothbard and Hoppe exists.¹⁰

Second, the minor premise is demonstrably false (and hence, so is the conclusion). Selgin and White claim that the fall in the purchasing power of money resulting from the issue of fiduciary media is the same sort of harmless event as a fall in the price of anything else (caused by changes in supply and/or demand). That money owners lose purchasing power as a result of fractional reserve banking, they claim, is not different from the situation in which the owners of potatoes or cars suffer a value-loss due to a larger supply of or a reduced demand for potatoes and cars.

Here again, Selgin and White conflate money (gold)—that is, property—and money substitutes (banknotes)—that is, property titles. To be sure, the issue of fiduciary media does not lead to physical damage to real property. After all, a bank note is just a piece of paper, and paper does not exert any relevant physical effect on the external world. But the same can be said also about the issue of fiduciary titles to potatoes or cars (titles backed by assets other than potatoes or cars). They, too, are merely pieces of paper, and as such have no impact on the real world. Yet there exists an important difference between changes in a potato or car owner's wealth position due to changes in the supply or demand for potatoes or cars on the one hand, and changes brought about by changes in the supply or demand for titles to non-existing (unchanged) quantities of potatoes or cars on the other hand. Surely, the owners of potatoes or cars are affected differently in both cases. In the first case, if the price of potatoes or cars falls due to a larger potato or car supply, all current potato or car owners remain (unchangingly) in possession of the same quantity of property (potatoes or cars). No one's physical property is diminished. Likewise, if the price falls because potato or car buyers are willing to offer only lesser quantities of other

¹⁰See, for instance, Hoppe (1988, pp. 69ff); and White's (1990) review of Hoppe.

goods in exchange for potatoes or cars, this by itself has no effect on any current potato or car owner's physical quantity of potatoes or cars. In distinct contrast in the second case, the issue and sale of an additional title to an unchanged quantity of potatoes or cars *does* lead to a quantitative diminution of some current potato or car owner's physical property. It does not merely have a value-effect: the purchasing power of potato or car titles will fall. It does have a physical effect: the issuer and seller of fiduciary potato or car titles misappropriates other people's potatoes or cars. He appropriates other people's property without relinquishing any property of his own (in exchange for an empty property title).¹¹

**THE ISSUE OF FRAUD III:
THE "PROOF FROM EXISTENCE"
FRACTIONAL RESERVE BANKING AND STATE FORMATION**

Neither the title-transfer theory of contract nor the principle of freedom of contract supports the claim that the issue of fiduciary media and fractional reserve banking is ethically justified. To the contrary, only one other argument remains in support of the claim that fractional reserve banking represents a legitimate form of business.

The argument boils down to a proof from existence: X, Y, or Z exists; it would not exist if it were not beneficial; hence, it should exist (and outlawing it would be detrimental and morally wrong).

Thus, write Selgin and White (p. 95):

the group [of people] whose freedom of contract we are concerned with here is not a small eccentric bunch, but is the great mass of people who have demonstrated that they do prefer banks that operate on fractional reserves. . . . Depositors continue to patronize these banks, demonstrating their preference, for them. . . . By the principle of demonstrated preference depositors must be presumed to benefit from the package they have agreed to accept, risk and all. (p. 93)

[Consequently,] if any person knowingly prefers to put money into an (interest-bearing) fractional reserve account, rather than into a (storage-fee-charging) 100 percent reserve account, then a blanket prohibition on fractional reserve banking by force of law is a binding legal restriction on freedom of contract in the market for banking services. (p. 88)

[Moreover,] . . . benefits accrue to bank depositors and noteholders, who receive interest and services paid for by the extra bank revenue generated from lending out a portion of its liabilities. Benefits accrue to bank borrowers who enjoy a more ample supply of intermediated credit, and to everyone who works with the economy's consequently larger stock of capital equipment. And the benefits must accrue to bank shareholders, who could choose to have the bank not issue demand liabilities if they found the risks not worth taking. (p. 94)

Selgin and White have here put the cart before the horse. The existence of a practice, however widespread, has no bearing on the question of whether it is justifiable

¹¹ Also see note 4 above. We will also show that these authors' meaning of demand for (and supply of) money is misconceived. An increased demand for money (or potatoes or cars) is not just a wish to have more money (or potatoes), but greater *effective* demand.

or not. Consider first, for illustrative purposes, the following analogy concerning the ethical permissibility of a state, that is, of a territorial monopolist of law and order (or of justice and protection).¹²

In the words of Selgin and White (applied here in a different context and paraphrased), the group of people whose freedom of contract we are concerned with is not a small eccentric bunch, but is the great mass of people who have demonstrated that they do prefer states (judges and protectors) that operate on a monopolistic basis. Territorial inhabitants continue to patronize these states, demonstrating their preference for them. By the principle of demonstrated preference, territorial inhabitants must be presumed to benefit from the package they have agreed to accept, risk and all. Consequently, if any person knowingly prefers to put money into a tax-bearing state account, rather than into a protection-fee-charging account in non-taxing justice and protection agencies, then a blanket prohibition on state-formation by force of law is a binding legal restriction on freedom of contract in the market for justice and protection services. Moreover, benefits accrue to state depositors and noteholders, who receive interest and services paid for by the extra state revenue generated from employing parts of the deposits for extra tax collections. Benefits accrue to state borrowers who enjoy a more ample supply of intermediated credit, and to everyone who works with the economy's consequently larger stock of capital equipment. And benefits must accrue to state shareholders, who could choose to have the state not engage in taxation if they found the risks not worth taking.

Given their own libertarian credentials, Selgin and White would presumably reject this analogy as false and inappropriate. But if so, why? What is it that invalidates the second *proof*, but not the first? What, if anything, makes a blanket prohibition (or permission) of fractional reserve banking categorically different from a blanket prohibition (or permission) of state formation and operation?

The answer—that no such difference exists and that both proofs are equally invalid—is to be found in the Rothbardian principle of demonstrated preference. While Selgin and White invoke this principle in support of their conclusion regarding the ethical permissibility of fractional reserve banking, they miss its implication. The principle of demonstrated preference, as explained by Rothbard in his celebrated “Toward a Reconstruction of Utility and Welfare Economics,” *presupposes* property rights. Not all demonstrated preferences are ethically permissible or socially beneficial. Instead, the only such preferences that are permissible and welfare enhancing are these that are expressed by means of one's own property and nothing but one's own property. Every preference demonstration by means of property other than one's own—with other people's property—is impermissible and non-beneficial.

As for the demonstrated preference for states, it runs afoul of Rothbard's principle. In Rothbard's analysis, which is presumably accepted by the participants on

¹²To avoid any misunderstanding, the term monopoly is employed here in its Rothbardian definition as an exclusive privilege (or the absence of free entry). A monopoly of law and order means that one may turn for justice and protection only to one party—the state—and that it is exclusively this party that determines the content of justice and protection.

both sides of the current debate, the violation can be quickly pinpointed. Private property, as the result of acts of (original) appropriation and/or production, implies the owner's right to exclusive jurisdiction regarding his property, including the right to employ this property in defense against possible invasions and invaders. Indeed, there can be no property without an owner's right to physical defense, and it is the very purpose of private property to establish separate domains of exclusive jurisdiction. No private-property owner can possibly surrender his right to ultimate jurisdiction over and defense of his property to someone else—unless he sells or otherwise transfers his property (in which case someone else would have exclusive jurisdiction over it). That is, so long as something (a good) has not been abandoned, its owner must be presumed as retaining these rights; and as far as his relations to others are concerned, every property owner may then only partake in the advantages of the division of labor and seek better and improved protection of his unalterable property rights through cooperation with other owners of property. Every property owner can buy from, sell to, or otherwise contract with everyone else concerning supplemental property protection and security services. Yet each owner also may at any time unilaterally discontinue any such cooperation with others. In distinct contrast, a territorial monopoly of protection and jurisdiction—a state—implies that every property owner is prohibited from discontinuing his cooperation with his protector, and that no one (except the monopolist) may exercise ultimate jurisdiction over his own property. Rather, everyone except the monopolist has lost his right to defense and is thus rendered defenseless vis-à-vis his own protector. Obviously, such an institution stands in contradiction to every owner's demonstrated preference of not giving up his property. Contrary to their demonstrated preference, the monopolist prohibits the people from using their property in physical defense against possible invasions by himself and his agents. A monopoly of protection and jurisdiction rests thus from the outset on an impermissible act of expropriation (taxation) and provides the monopolist and his agents with a license to further expropriation and taxation. Every owner's range of permissible actions regarding his own property, and hence the value of his property, is diminished, whereas the monopolist's range of action and control is correspondingly enlarged and his exclusive privilege is reflected in an increase in the value of his property (capitalization of monopoly profit).

Presently, states exist everywhere, and almost everyone resides under state *protection*. Regardless of this preference demonstration, however, there is nothing wrong, ethically or economically, with blanket protection against state formation. No one may form a state, for the same reason that no one may expropriate or rob anyone else. In a court of law, it would be sufficient that a single property owner objected to the monopoly's existence, and the monopolist would have to cease in his current operation as a tax-yielding protection agency and be repaired to the legal status of a non-taxing but fee-charging law-and-security agency (a normal specialized firm). A tax-yielding protection agency is a contradiction in terms—an invasive protector—and must be forbidden, irrespective of any benefits occurring to state depositors, state borrowers, and state owners. To do so is not a legal restriction on freedom of contract in the market for justice and protection services, but the very presupposition of freedom of contract and justice. Everyone putting money or any other resources into a tax-yielding protection account is engaged in unlawful action and subject to punishment.

Just as states exist everywhere, so do fractional reserve banks, and nowadays practically everyone is banking with fractional reserve banks. What, if anything, is the difference between the status of a state and that of a fractional reserve bank? Why should fractional reserve banks not be outlaw banks just as states outlaw protection agencies? To be sure, just as there can be no doubt concerning a demand for protection services, there can also be no doubt as to a demand for banking services. Yet the demand for protection services that private-property owners may properly demonstrate does not include a demand for tax-yielding protection services, as we have seen. It exclusively permits a demand for fee-charging protection agencies. Why should an analogous distinction not be true also for banking services? Why should a demand for interest-yielding demand deposit accounts not be just as impermissible as the demand for tax-yielding protection accounts, on the ground that both interest-yielding deposit accounts and tax-yielding property protection are contradictions in terms? Why should the functions of a money warehouse and clearing institution (100 percent reserve deposit banking) and as an intermediary of credit (savings-and-loan banking) not be the only just forms of banking (just as fee-charging protection agencies are the only legitimate form of protection)?

The answer depends on whether or not the demonstrated preference for fractional reserve banking services, that is, the issue and acceptance of fiduciary media, involves solely and exclusively the property of the two contracting parties. At any given point in time, the quantity of property (appropriated goods)—whether consumer goods, producer goods, or money—is given. Fractional reserve banking does not increase the quantity of existing property (money or otherwise), nor does it transfer existing property from one party to another. Rather, it involves the production and sale of an increased quantity of titles to an unchanged stock of money property (gold); that is, the supply of and the demand for counterfeit money and illegitimate appropriation. As in every other case of counterfeiting (forgery)—of stock and commodity certificates, banknotes, land titles, original art, etc.—the issue and sale of money copies (banknotes) uncovered by originals (gold) will physically diminish or despoil the original money—stock, commodity, land, or art—owners' property. But a counterfeiter of money is particularly dangerous and invasive because of money's defining characteristic as the most easily saleable and widely acceptable of all goods; that is, because *money-counterfeits* open to their seller the widest possible range of objects for undue appropriation (from money to almost every other form of real property).

Thus, it is no wonder that of all forms of forgery, the counterfeiting of money has always held the greatest attraction. So long as money exists there will also exist a persistent demand for counterfeit money. Regardless of this attraction and demand, however, there is nothing wrong with a blanket prohibition against fractional reserve banking. No one may operate a fractional reserve bank for the same reason that no one, in any other line of business, may engage in counterfeiting, that is, the production and sale of titles or copies to non-existing property or originals. In a court of law, it would be sufficient that a single money or other property owner brought suit against a fractional reserve bank as a manufacturer of counterfeit money, and the bank immediately would have to cease its current operation and be reduced to its two original functions: deposits and loans. An interest-yielding (rather than fee-charging) deposit bank is a contradiction in terms: it is a counterfeiting money warehouse,

and must be outlawed, irrespective of any benefits accruing to bank depositors, borrowers, and owners. To do so is not a restriction on freedom of contract in the market for banking services, but the requirement of lawful money and banking. Everyone putting money or other resources into interest-yielding deposit accounts is engaged in undue and unlawful appropriation.¹³

The relationship between states and fractional reserve banks is even more intimate, and in any case quite different from that suggested by Selgin and White. They claim that it would be an illegitimate interference with the operation of free markets if the state were to prohibit fractional reserve banking. In fact, fractional reserve banking is the result of an illegitimate state interference with the market, and prohibiting it would only repair this earlier intervention. Selgin and White recognize that in the evolution of a free banking system, 100 percent reserve deposit banking and, functionally separated, loan banking, must (praxeologically) precede fractional reserve banking. In their view, fractional reserve banking is the natural outgrowth of an earlier 100 percent reserve system. However, they do not offer an explanation for this transition as a natural solution to a problem that cannot be solved under the prior system of 100 percent banking (in the way that Austrians conceive of money as the natural solution to the problem of lacking coincidences of wants under a preceding barter system). They merely affirm that the transition actually occurred.

While one can easily see why and how a banker might want to take advantage of the possibilities of counterfeiting, it is just as clear that any such attempt would not go by without quickly and continually being challenged. Surely the current writers and thousands of earlier legal and economic theorists would have accused fractional reserve banks of counterfeiting and would have brought suit against them. The further course of banking evolution would then depend on a court decision. If the court decided that the issue of fiduciary media *qua* titles to money uncovered by money constitutes counterfeiting, fractional reserve banks would not come into existence; and only if it decided otherwise would they ever actually appear. Nothing in this evolution is natural; everything appears rather deliberate. Nor would the outcome of such trials naturally be to Selgin and White's liking. To the contrary, if one were to assume that fractional reserve bankers would be tried on counterfeiting charges before a jury of their own peers (of other businessmen), we dare say that, empirically, the overwhelming number of such cases would end in conviction (the testimony of Selgin and White notwithstanding). Why, then, the almost complete dominance of fractional reserve banking?

¹³Explains Rothbard (1995, p. 77):

The champions of free competition in counterfeiting retort that this is simply the market at work, that the market registers a "demand" for more expanded credit, and that the private bankers, those Kirznerian entrepreneurs, are simply "alert" to such market demands. Well, of course, there is always a "demand" for fraud, and embezzlement, on the market, and there will always be plenty of "alert" swindlers who are eager and willing to furnish a supply of these items. But if we define the "market" not simply as a supply of desired goods and services, but as a supply of such goods *within* a framework of inviolate property rights, then we see a very different picture.

The answer is that the courts deciding these matters everywhere are *state courts*. Only if a single court possesses a territorial monopoly of jurisdiction is it possible that the dispute at hand could be settled once and for all. And that it has been uniformly settled in the way it was, that is, by permitting rather than prohibiting fractional reserve banking, follows from the interest of every court and judge *qua* state court and state judge. The owners and agents of the state recognize fully as much as bankers the potentials of money counterfeiting as a source of income. In permitting bankers to issue fiduciary media (rather than prohibiting the practice as counterfeiting), banks are made existentially dependent on the state. They can only operate because the state, due to its territorial monopoly of jurisdiction, shields them from counterfeiting suits; and the state does so only under the provision that banks will share with it in the extra revenue and credit derived from legalized counterfeiting. Hence, by permitting fractional reserve free banking the state actually creates the first and preliminary form of a joint-bank-state-counterfeiting cartel under its own ultimate control.

Once fractional reserve banking receives blanket protection from the state, it follows naturally that fractional reserve banks will outcompete 100 percent reserve banks. Not, as Selgin and White assert (pp. 97–98), because they are better or more efficient banks, but for the reason that, once money counterfeiting is permitted, banks that engage in it tend to outcompete banks that do not. That is, for the same reason that, once industrial air pollution is permitted a polluting steel producer will tend to outcompete a steel producer who does not pollute, and for the same reason that a protection agency with taxing powers, a state, will tend to outcompete protectors without taxing power. Put differently, it is not always the case that good drives out bad. This is the case only so long as private property-rights are inviolate. If they are not, and there exist privileged agents or agencies, who are exempt from the universal rules regarding the appropriation, production and transfer of property, then these will tend to outcompete other normal agents. In this case, bad drives out good. Thus, it is completely mistaken to interpret the empirical success of fractional reserve banking as proof of its greater economic efficiency. The success of fractional over 100 percent deposit banking is no more a market phenomenon than is the success of tax-yielding protectors, states, over competitive and non-taxing security producers. It is false to suggest, as Selgin and White do, that fractional reserve banking has stood the market test and represents the outcome of voluntary consumer choices. After all, 100 percent reserve deposit banking is not outlawed and consumers are free to bank with them instead of fractional banks if they so prefer. Or would they likewise argue that the polluting steel producer had stood the test of the market because, after all, consumers are free to buy their steel from non-polluting steel producers, or that states have proven themselves in the market because, after all, consumers are free to buy their security also from agencies without any tax and jurisdictional powers?¹⁴

¹⁴A similar confusion characterizes Selgin and White's view on the relationship between money proper (gold) and banknotes. They criticize Hoppe for claiming that, in a genuine free-market order, most people would use money proper rather than banknotes (without mentioning Hoppe's theoretical reason). "The facts," they claim, "are otherwise" (p. 99). Yet these facts—the historical success of the banknote over genuine money—are the *result of an earlier state interference* with private-property rights (the legalization of fractional reserve banking). As Mises (1966, pp. 438, 442, 447) noted,

Moreover, whereas 100 percent reserve banking is crisis-proof, fractional reserve banking, as even Selgin and White admit, is not. In fact, as we can only briefly indicate here, a system of free fractional reserve banking will, in accordance with Mises's theory of interventionism, lead to further state interventions and the successive devolution of money. Free fractional reserve banking *qua* state-protected competition in counterfeiting will lead to a steady contest among banks of testing the viability of increasingly lower reserve ratios. This is bound to lead to banking crises, and these will be used by governments for the introduction of central banking. Central banking leads to still more counterfeiting, and to the abolition of commodity money and adoption of national fiat currencies. Lastly, international—inter-central bank—competition in fiat money counterfeiting will lead to state bankruptcies, and their financial default will be used by the most powerful among the surviving states for the establishment of a one-world government, central bank, and fiat currency.

Hence, the solution proposed by Selgin and White to the current monetary disorder, that is, a gold-based free—fractional reserve—banking system, is in fact the initial interventionist cause of virtually all contemporary monetary problems.¹⁵

the truth is that, except for small groups of businessmen who were able to distinguish between good and bad banks, banknotes were always looked upon with distrust. It was the special charters which governments granted to privileged banks that slowly made these suspicions disappear.

In [governments'] eyes the foremost task of the banks was to lend money to the treasury. The money-substitutes were favorably considered as pace-makers for government-issued paper money. The convertible banknote was merely a first step on the way to the nonredeemable banknote. With the progress of statolatry and the policy of interventionism these ideas have become general and are no longer questioned by anybody.

Governments did not foster the use of banknotes in order to avoid inconvenience to ladies shopping. Their idea was to lower the rate of interest and to open a source of cheap credit to their treasuries. In their eyes the increase in the quantity of fiduciary media was a means of promoting welfare. Banknotes are not indispensable. All the economic achievements of capitalism would have been accomplished if they had never existed.

Accordingly, Mises's view regarding sound money is completely different from Selgin and White's. Whereas the latter believe that gold would—and should—ultimately disappear from circulation altogether (see note 3 above), Mises (1978, pp. 450–51) considered it a requirement of a sound monetary system that "gold must be in the cash holdings of everybody. Everybody must see gold coins changing hand, must be used to having gold coins in his pockets, to receiving gold coins when he cashes his pay check, and to spending gold coins when he buys in a store."

¹⁵On the relationship between state, money and banking, and political centralization see Hoppe (1990) and Hülsmann (1997). Selgin and White argue:

We also reject the notion . . . that *competitive* banks issuing redeemable liabilities can create credit "out of thin air." By the nature of the balance sheet, all bank loans must be funded by liabilities or equity. Neither source of funds can be conjured out of thin air. No one is forced to hold a bank's redeemable liabilities or to buy its shares; anyone can hold claims on other banks instead, or on no bank. A competitive bank must therefore *expend real resources to attract a clientele* by the provision of interest and services. The notion that a bank can extend credit gratuitously is valid only with respect to the inframarginal credits of a monopoly bank, or to the issuer of a forced tender; it does not apply to a bank in a competitive system. (p. 94, n. 13)

Thus competition will beat down the returns to capital invested in fractional reserve banking until the marginal bank is earning only the normal rate of return. (p. 97)

**THE POSITIVE ECONOMICS OF FIDUCIARY MEDIA:
MONEY BALANCE, PRICE ADJUSTMENT, SAVING, AND INVESTMENT**

From the nature of fiduciary media—as titles to non-existing quantities of money property (gold), titles to money covered by things other than money, or plain counterfeit money—it would seem to follow that fractional reserve banking cannot possibly effect anything but a continual wealth and income redistribution. As the uncovered money substitutes ripple from the issuing bank and its borrower clientele outward through the economy, and thereby successively raise the price of increasingly more goods, real wealth (property) is transferred and redistributed in favor of the issuing bank and the initial and early recipients and sellers of this money, and at the expense of its late or never receivers and sellers. Explains Rothbard (1993, p. 851),

the first receivers of the new money gain the most, the next gain slightly less, etc., until the midpoint is reached, and then each receiver loses more and more as he waits for the new money. For the first individuals' selling prices soar while buying prices remain almost the same; but later, buying prices have risen while selling prices remain unchanged.

However, according to Selgin and White, fiduciary media can accomplish far more. Rather than only redistributing existing property, the issue of fiduciary media can, under certain conditions, lead to an increase in real wealth (property). We have already quoted them stating that “benefits accrue to bank borrowers who enjoy a more ample supply of intermediate credit, and to everyone who works with the economy’s consequently larger stock of capital equipment.” They refrain from putting it this bluntly, yet what they claim is that, under specific circumstances, an

While we have no difficulty accepting the distinction drawn here between competitive and monopolistic banking, none of this has any bearing on the issue at hand, that is, the validity of the analogy between states and fractional reserve banks as outlaw organizations. For one, states do compete for clients (residents). Indeed, competition between states (or banks) for clients only comes to a complete halt with the establishment of a single world state (or central bank). And the intra-state competition between fractional reserve banks is, as explained, competition within a state-privileged industry, that is, monopolistic competition (just as inter-state competition is an example of monopolistic competition). Second and more importantly, the difference between competitive and monopolistic banks (or states), interesting as it may otherwise be, does not affect in the slightest their common characteristic as fractional reserve banks (or states). Counterfeiting and taxation do not change their nature because they are undertaken competitively.

The error can be revealed by analogy. Selgin and White are paraphrased here: We also reject the notion that competitive states issuing tax liabilities can create taxes out of thin air. By the nature of state budgets, all expenditures must be funded by conquest, robbery, or theft. Neither source of funds can be conjured out of thin air. No one is forced to hold any particular state’s tax liabilities or buy its shares; anyone can move and pay taxes to another state, or to no state. A competitive state must therefore *expend real resources* to attract a clientele by the provision of protection and services. The notion that a state can increase taxes gratuitously is valid only with respect to the inframarginal taxes of a monopoly state; it does not apply to a state in a competitive system. Thus, competition will beat down the returns to capital invested in states until the marginal state is earning only the normal rate of return.

According to Selgin and White, it would seem to follow that taxation (like money counterfeiting) is not to be considered a problem until the arrival of a single world monopoly bank. Up until then, under competitive conditions, taxes represent nothing but a normal market income.

increase of titles to an unchanged fund of goods will somehow make this fund grow or prevent it from shrinking.

When and how can such a miracle be accomplished? According to Selgin and White, (unanticipated) changes in the demand for money lead to “temporary” or “short-run monetary disequilibrium” involving “serious misallocations of resources”—that is, *unless* such changes are accommodated by fractional reserve banking practices (p. 101). They write:

In the long run, nominal prices will adjust to equate supply and demand for money balances, whatever the nominal quantity of money. It does not follow, however, that each and every change in the supply of or demand for money will lead at once to a new long-run equilibrium, because the required price adjustments take time. They take time because not all agents are instantly and perfectly aware of changes in the money stock or money demand, and because some prices are costly to adjust and therefore “sticky.” It follows that, in the short-run (empirically, think “for a number of months”), less than fully anticipated changes to the supply of or demand for money can give rise to monetary disequilibrium. . . . It is therefore an attractive feature of free banking with fractional reserves that the nominal quantity of bank-issued money tends to adjust so as to offset changes in the velocity of money. (pp. 100–1)

If the banking system fails to increase the quantity of bank-issued money and the price level does not promptly drop, an excess demand for money arises (assuming also that the quantity of base money does not immediately increase). A corresponding excess supply of goods arises: unsold consumer goods pile up on sellers’ shelves (this is of course what proximately puts downward pressure on prices, until at last goods prices have fallen sufficiently). Business is depressed until the purchasing power of money gets back to equilibrium. (p. 105)¹⁶

From the outset, one must wonder about the very existence of the problem of monetary disequilibrium (not to speak yet about the solution). In the just-given quote, one can substitute any other good for money: televisions, steel, beer, or pretzels. The quantities of goods such as these are also rigidly fixed (as is the quantity of gold), and yet (unanticipated) changes in the demand for televisions, steel, beer, or pretzels do not lead to temporary disequilibria involving serious misallocations of resources. Or, in any case, they do not cause problems that would require the invention of a special new device (such as fractional television or beer production).

¹⁶As Roger Garrison, another fractional reserve free banker, has put it, “in terms of the equation of exchange [$MV=PQ$], we can say that free banking adjusts so as to offset changes in V ; but M allows changes in Q to be accommodated by changes in P .” Garrison (1996, pp. 117–18) describes the short-run “monetary disequilibrium” in almost identical form:

An increase in the demand for money puts downward pressure on product and factor prices in general. If there were no money-supply response, a general decline in economic activity would follow, since prices and wages could not fully and instantaneously adjust themselves to the new market conditions. Goods in general would go unsold; production would be cut; workers would be laid off. . . . With a less-than-perfectly flexible price system, general deflationary pressures can push the economy below its potential during the period in which prices are adjusting to the higher monetary demand. And the fact that some prices and some wages are more flexible than others means that the adjustment period will involve changes in relative prices that reflect no changes in relative scarcities. These are precisely the kinds of problems . . . avoided by free banking’s responsiveness to increases in money demand.

Nor is it clear why we are supposed to believe that “it is important to distinguish between short-run and long-run implications of changes in the demand schedule for money or in the stock of money” (p. 100), or, in any case, why this distinction should be of different importance or significance in the case of money from that of everything else. To be sure, it takes time before an unexpected increase in the demand for televisions and beer, for instance, will have exhausted all of its effects on the system of relative prices and a new adjusted production structure will have been established. But this does not mean that price adjustments take any time (meanwhile causing short-run problems). To the contrary, price adjustments occur immediately and without any delay. Every change in the supply of or demand for anything affects prices instantly. This fact is overlooked because of an un-Austrian concern for macroeconomic artifacts such as the general price level, long-run equilibrium, and the velocity of money. However, viewed from the proper individualist perspective, there can be no doubt about the immediacy of price adjustments and the praxeological integration of the short and the long run.

In individualistic terms, an increased demand for money is the result of the purposeful actions of individuals, that is people intent upon increasing their individual cash balances. To do so, a person must restrict his purchases and/or increase his sales. In either case, the outcome is an immediate fall of some prices. As the result of restricting one’s purchases of *x*, *y*, or *z*, the money price of *x*, *y*, or *z* will be lowered immediately (as compared with what it would have been otherwise), and likewise, by increasing one’s sales of *a*, *b*, or *c* their prices will fall instantly. No one is concerned about the general price level or the generalized purchasing power of money. Instead, everyone is always concerned about specific prices and the purchasing power of money regarding specific items (and everyone is interested in his very own and different specific array of prices and purchasing power). In restricting his specific purchases and/or increasing his specific sales, each actor accomplishes exactly and immediately what he wants: certain prices that he deems too high are lowered, the purchasing power of a unit of money increases, the real value of his cash balance rises, and his demand for and supply of money is immediately brought back into equilibrium (and he wishes to hold neither more nor less money than he actually does).¹⁷

The adjustment of the praxeologically meaningless general price level necessitated by an increased demand for money is nothing but the summation of a series of countless immediate and purposeful individual cash-balance adjustments. If the increased demand for money is accommodated by the issue of fiduciary media, as Selgin and White

¹⁷Thus writes Mises (1990, p. 61):

Buyers and sellers on the market never concern themselves with the elements in the equation of exchange, of which two—velocity of circulation and the price level—do not even exist before market parties act and the other two—the quantity of money (in the whole economy) and the sum of transactions—could not possibly be known to the parties in the market. Only the importance which the various actors in the market attach, on the one hand, to the maintenance of a cash balance of a certain magnitude and, on the other hand, to the ownership of the various goods in question determines the formation of the exchange relationship between money and goods.

advocate, this adjustment process will not be facilitated but delayed.¹⁸ The speed of the adjustment of prices depends on the market-participants' expectations concerning the given quantity of money. If it is reasonable to assume that fractional reserve banks will increase their fiduciary issues in response to an unanticipated increase in the demand for money, then the adjustment will take *more* time. Production would adjust and begin *earlier* without the additional influence of inflation.¹⁹

Moreover, the proposed solution to the alleged problem of short-run monetary disequilibrium displays a fundamental confusion regarding the concept of demand (and supply), and the relationship between the demand for money, saving, and investment in particular. First, an increased demand for money (as for televisions, beer, or pretzels) is not just a wish to have more money (or televisions, beer, etc.), but *effective* demand. That is, an increased demand for money (as for anything else) can be satisfied only if the demander is willing to increase his market-supply of and/or reduce his demand for something else. Likewise, the supplier (seller) of money can only increase his supply of money if he reduces simultaneously the supply of (or his reservation demand for) something else. The authors have overlooked Say's law: all goods (property) are bought with other goods, no one can demand anything without supplying something else, and no one can demand or supply more of anything unless he demands or supplies less of something else. But this is here *not* the case whenever a fiduciary note is supplied and demanded. The increased demand for money is satisfied without the demander demanding, and without the supplier supplying, less of anything else. Through the issue and sale of fiduciary media, wishes are accommodated, not effective demand. Property is appropriated (effectively demanded) without supplying other property in exchange. Hence, this is not a market exchange—which is governed by Say's law—but an act of undue appropriation. Or would it be an efficient solution to the problem of unanticipated short-run television, beer, or pretzel-shortages if television, beer, and pretzel producers were to accommodate such increased demand

¹⁸Moreover, from an individualist perspective, the increased demand for money occurs with specific actors at specific times and places. It is not sufficient for banks to accommodate some abstract higher money demand by more money; rather, but the accommodation would have to occur precisely with the correct people and locations. If this is not the case, one can hardly speak of an accommodation but of an additional distortion. This difficulty was recognized by the early Hayek (1935, p. 124):

in order to eliminate all monetary influences on the formation of prices, and the structure of production, it would not be sufficient merely quantitatively to adapt the supply of money to these changes in demand, it would be necessary also to see that it came into the hands of those who actually require it, that is, to that part of the system where that change in business organization or the habits of payment had taken place.

With the later Hayek, one wonders how banks could possibly have the requisite knowledge of performing this task.

¹⁹As regards the stickiness of prices, and the redistributive consequences of an increased demand for money vis-à-vis an array of prices of varying degrees of stickiness, which Selgin and White as well as Garrison raise as matters of concern, it is of utmost importance to recognize that prices are the outcome of purposive action—and so is their stickiness. That is, the flexibility or inflexibility of various product and service prices is not accidental to, but a deliberate part of, these products and services. Contrary to Garrison's claim, the stickiness of prices does affect and is related to, real relative scarcities. If more sticky prices suffer more, so to speak, so be it; that will teach them to be less sticky in the future—if the owners of the property in question act in a manner compatible with this end.

“temporarily” by issuing and selling additional titles to televisions, beer, and pretzels but not these goods themselves?

Second,²⁰ Selgin and White further misconstrue the nature of money and the demand for money hold extraordinary claim: that the issue of fiduciary media “*matched by an increased demand to hold fiduciary media*” is not only not disequilibrating (p. 102), but will actually afford the economy a “larger stock of capital equipment,” because

the act of holding fractional-reserve *bank-issued* money not only (like holding base money) defers consumption for a longer or shorter period, but also *temporarily lends funds* to the bank of issue in doing so. The period of the loan is unspecified . . . but if the bank can estimate with a fair degree of accuracy the lengths of time for which its demand claims will remain in circulation . . . , it can safely make investments of corresponding length. (p. 103)

Following the lead of Rothbard, Hoppe had criticized this essentially Keynesian view concerning the relationship between the demand for money and savings (loanable funds)²¹ by pointing out that

not-spending money is to purchase *neither* consumer goods *nor* investment goods. . . . Individuals may employ their monetary assets in one of three ways: they can spend them on consumer goods; they can spend them on investment; or they can keep them in the form of cash. There are no other alternatives. . . . The consumption and investment proportion, that is, the decision of how much to spend on consumption and how much on investment, is determined by a person’s time preference, that is, the degree to which he prefers present consumption over future consumption. On the other hand, the source of his demand for

²⁰The error of confusing property and titles lies also at the bottom of Selgin and White’s attempts to separate analytically the demand for outside money from the demand for inside money, as if these were somehow two different kinds of money with two different and independent demands.

²¹Selgin (1988, p. 55) stated the same thesis thus:

Whenever a bank expands its liabilities in the process of making new loans and investments, it is the holders of the liabilities who are the ultimate lenders of credit, and what they lend are the real resources they could acquire if, instead of holding money, they spent it. When the expansion or contraction of bank liabilities proceeds in such a way as to be at all times in agreement with changing demands for inside money, the quantity of real capital funds supplied to borrowers by the banks is equal to the quantity voluntarily offered to the banks by the public. Under these conditions, banks are simply intermediaries of loanable funds.

As for John Maynard Keynes (1936, p. 82) he had written in the *General Theory* that “the notion that the creation of credit by banking system allows investment to take place to which ‘no genuine saving’ corresponds” that is, “the idea that saving and investment . . . can differ from one another, is to be explained, I think, by an optional illusion” (ibid, p. 81). “The savings that result from this decision are just as genuine as any other savings. No one can be compelled to own the additional money corresponding to the new bank-credit, unless he deliberately prefers to hold more more money rather than some other form of wealth” (ibid, p. 83). Indeed, Selgin (1988, p. 59) acknowledges that “many Keynesians might accept the prescription for monetary equilibrium offered [by him]. Those who do not regard the liquidity trap as important factual possibility would probably accept it as entirely adequate.”

Henry Hazlitt (1983, p. 227) remarked on this Keynesian idea that “on the same reasoning we can create any amount of new ‘savings’ we wish overnight, simply by printing that amount of new paper money, because *somebody* will necessarily hold that new paper money.”

cash is the utility attached to money, that is, the personal satisfaction derived from money in allowing him immediate purchases of directly or indirectly serviceable consumer or producer goods at uncertain future dates.

Accordingly, if the demand for money increases while the social stock of money is given, this additional demand can only be satisfied by bidding down the money prices of non-money goods. The purchasing power of money will increase, the *real* value of individual cash balances will be raised, and at a higher purchasing power per unit money, the demand for and the supply of money will once again be equilibrated. The relative price of money versus non-money will have changed. But *unless* time preference is assumed to have changed at the same time, *real* consumption and *real* investment will remain the same as before: the additional money demand is satisfied by reducing nominal consumption *and* investment spending in accordance with the same pre-existing consumption and investment proportion, driving the money prices of both consumer as well as producer goods down, and leaving real consumption and investment at precisely their old levels. (Hoppe 1994, pp. 72–73)

Accordingly, Hoppe concluded, it is *never* warranted to accommodate an increased demand for money by issuing fiduciary credit.²² In fact, to do so will either—insofar as the accommodating increase of fiduciary media is unanticipated and the market rate of interest falls temporarily below the natural rate of interest—lead to a boom-bust cycle; or else—insofar as the monetary change arising from the banking system is anticipated and the market rate of interest is bid up (in the expectation of higher selling prices) in accordance with the height of the natural rate—it will accomplish no more than a plain wealth and income redistribution among various members of society. It is praxeologically impossible, however, that the issue of fiduciary media can lead to an “enlarged stock of capital equipment.”

²²See also Hoppe (1993, pp. 119–20, 137–38); and Rothbard’s (1993, pp. 167ff, 667ff; 1983a, pp. 39ff) original argument in *Man, Economy, and State*.

As for Selgin and White’s claim of being Misesians, it is worthwhile to quote Mises on the role cash holding plays in the process of saving and capital accumulation. . . . If an individual employs a sum of money not for consumption but for the purchase of factors of production, saving is directly turned into capital accumulation. If the individual saver employs his additional savings for increasing his cash holding because this is in his eyes the most advantageous mode of using them, he brings about a tendency toward a fall in commodity prices and a rise in the monetary unit’s purchasing power. If we assume that the supply of money in the market system does not change, this conduct on the part of the saver will not directly influence the accumulation of capital and its employment for an expansion of production. The effect of our saver’s saving, that is, the surplus of goods produced over goods consumed, does not disappear on account of his hoarding. The prices of capital goods do not rise to the height they would have attained in the absence of such hoarding. But the fact that more capital goods are available is not affected by the striving of a number of people to increase their cash holdings. If nobody employs the goods—the nonconsumption of which brought about the additional saving—for an expansion of his consumptive spending, they remain as an increment in the amount of capital goods available, whatever their prices may be. The two processes—increased cash holding of some people and increased capital accumulation—take place side by side. A drop in commodity prices, other things being equal, causes a drop in the money equivalent of the various individuals’ capital. But this is not tantamount to a reduction in the supply of capital goods and does not require an adjustment of production activities to an alleged impoverishment. It merely alters the money items to be applied in monetary calculation. (Mises 1966, pp. 521–22)

In their attempt to rebut this argument, Selgin and White first concede the central theoretical point: “We agree that time preference and money demand are distinct, and that a change in one does not imply a change in the other” (p. 102). Likewise:

that holding money is one form of saving does not imply that an increase in the demand for money is identically an increase in total saving. An increased demand for money may accompany a reduced demand for holding other assets, and not a reduction in consumption; hence it may be part of a change in the manner of saving with no change in total savings. (p. 103)

However, if an increased demand for money is *not* identically an increase in total savings, then it is impossible to maintain that it provides for a larger pool of loanable funds and increased capital formation (a lengthening of the structure of production). Hence, to rescue their economic-growth thesis, immediately following this concession Selgin and White try to take it back again by arguing that:

Nonetheless [the non-identity of time preference and money demand notwithstanding], to hold money is to hold it for later spending, even though how much later is not signalled (and typically has not yet been decided by the money holder). Holding money for later spending, rather than spending it on consumption now, does defer consumption to the future. As Hoppe . . . himself points out, the demand for cash stems from the convenience it allows one in purchasing “consumer or producer goods at uncertain *future* dates.” . . . So perhaps our disagreement here is merely over words. (p. 102)

Unfortunately, this suggestion is unfounded. Rather than a verbal quibble, the disagreement is a substantive one concerning the nature of money.

It is difficult not to interpret the two previous pronouncements as contradictory. Selgin and White try to escape from this conclusion by an *ad hoc* semantic shift, that is, in characterizing money as a *future* good. Essentially, their argument is that while increased money demand does not imply increased savings, it provides nonetheless for a larger loan fund, because money is held only to be spent “at uncertain *future* dates” (their emphasis), such that an increased demand for money is always and at the same time an increase in the demand for future goods.²³ Yet money is demonstrably *not* a future good. In fact, when the money is spent—in the future—it loses all its utility for the present owner. It has utility only while and insofar as it is *not* spent, and its character as a present good stems from the omnipresent human condition of *uncertainty*.²⁴

The error in classifying money as a future good can be revealed in a twofold manner. On the one hand, negatively, it can be shown that this assumption still leads to contradiction. In support of their thesis, Selgin and White claim that “holding

²³Selgin and White’s view here is quite similar to that of Keynes (1936, pp. 293–94), when he emphasized that “the importance of money essentially flows from its being a link between the present and the future,” and characterized money as “above all, a subtle device for linking the present and the future.”

²⁴Put differently: rather than, as Selgin and White say, that “the demand for money stems from the convenience it allows one in purchasing goods at uncertain *future* dates,” the demand for money stems from the convenience it allows one in purchasing goods at *uncertain* future dates.

money for later spending, rather than spending it on consumption *now*, does defer consumption to the future," implying that the holding of money involves the exchange of a future good (satisfaction) for a present one. In the next sentence they admit that money held is spent *neither* on consumer goods *nor* on producer goods. Yet they fail to notice that this implies also, as a further consequence, that holding money for later spending, rather than spending it on production *now*, does defer *production* (and hence *future* consumption) to the future. If the holding of money defers consumption *and* production, however, then it becomes impossible to maintain that the holder of money has thereby invested in a *future* good, because *there are no future goods*—whether consumer *or* producer goods—which result from the act of holding money and to which its holder could thus be entitled. Yet as claims to no future goods whatsoever, money would be worthless. By implication, if money is not worthless (and no one would hold money if it had no value), then its value must be that of a *present* good.

On the other hand, positively, the nature of money as a paradigmatically present good can be established by praxeological proof. As Mises and Rothbard have explained, in general equilibrium or, more appropriately, within the imaginary construction of an evenly rotating economy, no money exists. With all uncertainties by assumption removed, everyone would know precisely the terms, times, and locations of all future exchanges, and all exchanges could be prearranged accordingly and take the form of direct rather than indirect exchanges.

In a system without change in which there is no uncertainty whatever about the future, nobody needs to hold cash. Every individual knows precisely what amount of money he will need at any future date. He is therefore in a position to lend all the funds he receives in such a way that the loans fall due on the date he will need them. (Mises 1966, p. 249)

While there is no place for money in the construction of an evenly rotating economy, however, there exists within its framework a present and a future, now and later, the beginning of an action and its later completion, immediately serviceable consumer goods (present goods) and indirectly serviceable producer goods (future goods), a structure of production, and savings and investment, that is, exchange of present against future goods governed by time preference. If anything, this proves again that money and the demand for money are systematically unrelated to consumption, production, and time preference, and that the source of the utility of money must be a categorically different one from that of consumer goods and producer goods. The source of the utility of a consumer good is its direct and present serviceability, and the source of the utility of a producer good is its indirect future serviceability. Money, by contrast, is neither consumed nor employed in production. It is neither directly serviceable (as consumer goods are) nor indirectly useful as a way station to future consumer goods (as producer goods are). Rather, the utility of money must be that of an *indirectly yet presently* serviceable good.

Outside the imaginary construction of an evenly rotating economy, under the inescapable human condition of uncertainty, when the terms, times, and locations of all future exchanges cannot be predicted with certitude, and when action is by nature speculative and subject to error, man can conceivably demand goods no longer exclusively on account of their use-value (present or future), but also because of their value as *media of exchange* (for resale purposes). Faced with situations

where, due to the absence of double coincidences of wants, a direct exchange is impossible, man can evaluate goods also on account of their degree of marketability, and can consider trading whenever a good to be acquired is more marketable than that to be surrendered, such that its possession would facilitate the acquisition of directly or indirectly serviceable goods and services. Moreover, because it is the sole function of a medium of exchange to facilitate purchases of directly or indirectly serviceable goods, man will naturally prefer the acquisition of a more marketable and, at the limit, universally marketable medium of exchange to that of a less or non-universally marketable one, such that

there would be an inevitable tendency for the less marketable of a series of goods used as media of exchange to be one by one rejected until at last only a single commodity remained, which was universally employed as a medium of exchange; in a word, money. (Mises 1978, pp. 32–33)

Selgin and White are familiar with this Mengerian–Misesian reconstruction of monetary evolution, of course. They apparently fail to recognize, however, that this feature of money as the most easily and widely saleable commodity, far from rendering it a future good, qualifies money at the same time as the good best suited to alleviate presently felt uncertainty and, as such, the most universally present good of all.²⁵ Although only indirectly useful—in this regard like producer goods, and unlike any consumer good—money is precisely on account of its supreme saleability a uniquely present good—in this regard like consumer goods, and unlike any producer good. Because money can be employed for the instant removal of the widest range of possible needs (or the satisfaction of the widest range of possible desires), it provides its owner with the best humanly possible protection (insurance) against uncertainty, that is, against his uneasiness of *not* being able to predict—of *not* being certain about—all of his future needs and desires. In holding money, its owner gains in the satisfaction of being able instantly to meet, as they arise unpredictably, the widest possible range of future contingencies.²⁶ “The maintenance of cash holding

²⁵In fact, one can only wonder how Selgin and White could have possibly overlooked money’s character as a uniquely present good. After all, the interest rate as the most visible manifestation of the phenomenon of time preference is expressed in terms of *money*.

²⁶The term uncertainty is employed here in its technical meaning as defined by Knight (1971, esp. chap. 7) and Mises (1966, esp. chap. 6), that is, as categorically distinct from risk (instances of class probability); also Hoppe (1997). Insofar as man faces a risky future, he does not need to hold cash. In order to satisfy his desire to be protected against risks, he can instead buy (or produce) insurance. A buyer of insurance demonstrates by his purchase that he is in fact *certain* about some future events. Hence, in paying a premium, he sacrifices a present good in exchange for a future one (payment in the event of actual risk-damage) and so contributes to and invests in a physical structure of production. Specifically, his premium becomes embodied in the production structure maintained by his insurance agency. In distinct contrast: insofar as man faces uncertainty he is, quite literally, *not certain* concerning his future, that is, as to what will happen to him and when. Hence, in order to be protected against uncertainty, he cannot possibly invest in any future good. Only present goods can insure against instantly arising—unpredictable—events. Nor can he invest in (present) consumer goods (for this would mean that he actually felt certain as to the specific nature of his future contingencies). Only a medium of exchange, on account of its supreme saleability, can insure him against contingencies of an uncertain nature. Hence, just as insurance is the price that must be paid for protection against risks, so cash holdings are the price that must be paid for protection against uncertainty. See also the following final note below.

requires sacrifices. To the extent that a man keeps money in his pocket or in his balance with a bank, he foregoes the instantaneous acquisition of goods he could consume or employ for production" (Mises 1966, p. 430). Accordingly, to the extent that he feels certain regarding his future, a man will want to invest in consumer and producer goods. Only to the extent that he feels uncertain about his future will he want to make the sacrifice referred to by Mises, that is, will he possibly want to invest in relief from any uneasiness felt concerning the uncertainty of his future consumption–production (income–expenditure) pattern. Hence, rather than indicating his increased willingness to sacrifice present satisfaction in exchange for future satisfaction, an increased demand for money demonstrates a man's more intensely felt uncertainty regarding his future; and rather than being an investment in the future, an addition to his cash balance represents an investment in present certainty (protection) vis-à-vis a future perceived as less certain.²⁷

In light of this praxeological reconstruction of money as a singularly present good, Selgin and White's entire positive case for fractional reserve banking is revealed as mistaken. If banks indeed accommodate an (unanticipated) increased demand for money through the temporary issue of additional fiduciary media (credit), as Selgin and White propose, this can have only disruptive and disequilibrating effects. If and insofar as the accommodating response on the part of the banks is unanticipated, the interest rate will be reduced temporarily below its natural height, investment will increase, and the structure of production will be lengthened. Yet this result is fundamentally at odds with the public's demonstrated preference. The public perceives the future as more (increasingly) uncertain and, accordingly, in striving to increase the size of its cash holdings and thereby bidding the prices of non-money goods down and correspondingly increasing the purchasing power per unit money, is intent upon providing for more (increased) present protection against uncertainty. To commit additional resources to the future is the expression of *less* public uncertainty (rather than more), and thus stands at cross-purpose to the public's actual wishes and implies a systematic misallocation of resources (to be revealed in a boom-bust cycle). And in any case, even if the banks' accommodating money supply increase could be fully anticipated and the structure of production were not unduly lengthened, any such accommodation would still be disruptive, because—even apart from its inescapable redistributionist consequences—it can only *delay* the arrival of

²⁷ Selgin and White never raise the question of *why* changes in the demand for money occur, and thus never penetrate to their ultimate—microeconomic—sources, that is, changes in individuals' subjective evaluations of presently perceived personal uncertainty. In contrast, whereas they portray changes in the demand for money as seemingly unmotivated and inexplicable events, Mises is explicit and emphatic about their rational character:

The advantages and disadvantages derived from cash holding are not objective factors which could directly influence the size of cash holdings. They are put on the scales by each individual and weighed against one another. The result is a subjective judgment of value, colored by the individual's personality. Different people and the same people at different times value the same objective facts in a different way. Just as knowledge of a man's wealth and his physical condition does not tell us how much he would be prepared to spend for food of a certain nutritive power, so knowledge about data concerning a man's material situation does not enable us to make definite assertions with regard to the size of his cash holding. (Mises 1966, p. 430)

the desired goal. In order to be better protected against perceived uncertainty, prices must fall and the purchasing power of money must rise. With an additional influx of money, it cannot but take *longer* before this goal is accomplished.²⁸

A FINAL NOTE: SOME MISTAKEN ANALOGIES

In light of the fundamental distinction between property (money) and property titles (money substitutes) explained in earlier sections of this article and the foregoing elucidation of money as a uniquely present good, several analogies popularly employed in the attempted justification of fractional reserve banking can be finally disposed of as mistaken. Even if they correctly distinguish between property titles (tickets) and property, all proposed analogies—between fractional reserve banking on the one hand and airline overbooking, fractional reserve parking lots, lotteries, and insurance on the other hand—fail to recognize properly the fundamental distinction between present and future goods.

The owner of a title to money owns a present good (money property)—an indirectly yet immediately serviceable good. The fractional reserve banker is found guilty of fraud; he issued and sold additional titles to an unchanged quantity of money property. In distinct contrast; the owner of an airline ticket owns a future good. Hence, in overbooking now (today) a flight at a future date (tomorrow), an airline cannot possibly have committed fraud already *now* (today). Fraud cannot occur until tomorrow, when the tickets must be actually redeemed, and only if the airline is then unable to satisfy each and every ticket holder's claim. In fact, airlines typically fulfill their contractual obligation: each ticket holder is assured a seat on the scheduled flight, because the airline is prepared to pay every excess ticket holder off, that is, to repurchase his ticket at a price (by exchange of another good) that the holder considers more valuable than his present airline seat. And certainly, no airline typically oversells spot-tickets (titles to seats right now, that is, present

²⁸Mises summarizes:

The services money renders are conditioned by the height of its purchasing power. Nobody wants to have in his cash holding a definite number of pieces of money or a definite weight of money; he wants to keep a cash holding of a definite amount of purchasing power. As the operation of the market tends to determine the final state of money's purchasing power at a height at which the supply of and the demand for money coincide, there can never be an excess or a deficiency of money. Each individual and all individuals together always enjoy fully the advantages which they can desire from indirect exchange and the use of money, no matter whether the total quantity of money is great or small. Changes in money's purchasing power generate changes in the disposition of wealth among the various members of society. From the point of view of people eager to be enriched by such changes, the supply of money may be called insufficient or excessive, and the appetite for such gains may result in policies designed to bring about cash-induced alterations in purchasing power. However, the services which money renders can be neither improved nor repaired by changing the supply of money. There may appear an excess or a deficiency of money in an individual's cash holding. But such a condition can be remedied by increasing or decreasing consumption or investment. (Of course, one must not fall prey to the popular confusion between the demand for money for cash holding and the appetite for more wealth.) The quantity of money available in the whole economy is always sufficient to secure for everybody all that money does and can do. (Mises 1966, p. 421)

goods) and assigns two people to occupy the same seat, which is essentially what fractional reserve banking amounts to.

Similarly, the owner of a fractionally covered parking permit (with more permit holders than parking spaces) does not own a present good. He owns the right to participate for a specified period of time in repeated search for parking space. The owner of the parking facility cannot possibly commit any fraud in selling his permits, unless he then refused entry to a valid permit holder when there was empty space available, or if he changed the contractually agreed upon rules of the game; that is, if he had agreed to print up to a maximum of 200 permits, for instance, but actually printed 300. It is only the owner of a spot parking ticket, or the owner of a reserved parking space, who are owners of a present good; and there is, of course, characteristically no overselling of spot spaces or of reserved parking.

The same reasoning applies to the case of lotteries. The holder of a lottery ticket does not own any present good. He owns the right to participate in the drawing of specified prizes, whereby it is self-understood among buyer and seller—as inherent in the nature of a lottery—that there are—and must be—more tickets than prizes. The lottery operator cannot possibly have committed any crime, unless he failed to redeem the winning tickets into the promised prizes or surreptitiously changed the preannounced rules of the game. If this is rarely the case, it is practically unheard of that a lottery would print more than one winning ticket for one and the same prize (present good), which would be likewise fraudulent, of course, and which is essentially what fractional reserve bankers do.

Finally, the proposed analogy between fractional reserve banking and insurance has already been refuted implicitly in note 26 above, concerning the relationship between risk and insurance on the one hand and uncertainty and money on the other. Unlike the owner of money, the owner of an insurance policy does not own a present but a future good. An insurance company may be unable to meet its contractually assumed obligations at some future point in time, and one may then come to the conclusion that it had engaged in an overselling of tickets. However, it is impossible to say that a crime has been already committed now, at the moment when the insurance policy is sold, because the good sold by the insurance agency is a future one. In distinct contrast, the owner of a money ticket is the owner of a present good, and every overissue of tickets to present goods is from the very outset—instantly and immediately—fraudulent, and accordingly is contrary to market ethics.

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FREE BANKING AND FRACTIONAL RESERVES: A COMMENT

PASCAL SALIN

The article by Jörg Guido Hülsmann (1996), "Free Banking and the Free Bankers," is an important contribution to a proper understanding of free-banking systems. He is perfectly correct in blaming some advocates of free banking who support arguments which are irrelevant or wrong, such as the argument according to which free banking makes possible a higher rate of investment, due to increased credits, the argument according to which a 100-percent-reserve system would imply higher costs, would impede financial intermediation, or would lead to money shortages, etc.

Thus, although I basically agree with Hülsmann when he blames both opponents of free banking and some free bankers who do not develop the right arguments, I cannot agree with his plea in favor of a 100-percent-reserve system. To be sure, one has the feeling that in such a system holders of money substitutes (notes or deposits) consider it a certainty that they can get the promised amount of money (gold) in exchange for their money substitutes, whenever they want. However, we also know that a situation of perfect certainty cannot exist. In any human system a certain degree of risk does exist and the perception of this risk by different individuals is normally different. Therefore, there is always a problem of the optimal distribution of risks between individuals with different risk perceptions and risk preferences. In a 100-percent-reserve system, for instance, there is not perfect certainty that money holders can get their money back, since the issuer of money substitutes may go bankrupt. Bankruptcy is caused by the fact that a firm is not profitable; and this may happen in a 100-percent-reserve system, since the issuing of money substitutes is costly (for instance printing the notes, replacing those which are used, investing against counterfeiting, protecting the gold deposited in vaults, etc.). One may even say that, in such a system, the issuer of money substitutes necessarily fails, except if it can find some means to make people pay for the services it offers them.

It may not be difficult to charge people for part of the *real* cost issuers of money substitutes have to bear: for instance, they may charge a higher gold price for notes

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when they sell them than when they buy them back to compensate for the cost of printing notes. But how to make people pay for the cost of gold storage? This cost is in fact proportional to the length of time which the gold-backed notes are held in the vaults of the issuer. Therefore, it would be rational for the issuer of bank notes to buy back its notes at a gold price which would decrease with time. But notes issued at different dates would have different gold prices and would not be perfect substitutes, so their liquidity would be lowered.

In a perfectly free banking system, everyone must be free to offer any type of notes and to charge customers for his services in any way he can imagine. And any customer must be free to choose the kind of notes and the system of payment for services he prefers. One possible way for the issuers of money substitutes to make people pay for the cost of holding gold is nothing else than a fractional-reserve system. In fact, in such a system, the return obtained by the issuer of money substitutes is proportional to the length of time during which people hold notes, since he receives interest on a fraction of the value of these notes, namely those which have credits and not gold as counterparts in his balance sheet. In a perfectly free banking system, different kinds of issuers, with different methods for charging customers, may (at least potentially) coexist on the market. But, we cannot decide from outside that a 100-percent-reserve system is optimal, since optimality cannot be defined independent of the wants of individual. By defending a 100-percent-reserve system against a fractional-reserve system, Hülsmann takes a constructivist position (which is contradictory to his anti-utilitarian orientation in other respects).

The very concept of a free-banking system—i.e., free competition between producers of money substitutes—is not compatible with the *a priori* idea according to which a 100-percent-reserve system *must* be the only acceptable system. Moreover, there are only two ways of selecting one or a couple of monetary systems (100-percent-reserve system or fractional-reserve system):

1. It may be imposed by state regulation, in which case, for instance, the state would forbid fractional reserves and would impose a 100-percent-reserve system. Apparently Hülsmann does not suggest such a selection process which would be totally incompatible with the concept of a *free* banking system.

2. The monetary system may be selected by the “market,” which means that producers and users of money substitutes select one or a couple of monetary systems as the best means to meet their wants. If ever a 100-percent-reserve system is optimal—which means that it better meets the needs of producers and users of money substitutes—it will be selected, and fractional systems will not survive. But we cannot decide *a priori* that a 100-percent-reserve system is to be preferred; we have to experiment. It may happen that some people prefer a 100-percent-reserve system and others fractional systems, so that both systems coexist in a perfectly free banking system.

There is, therefore, some contradiction in the position held by Hülsmann. He is supporting the idea according to which a 100-percent-reserve system is optimal, but, apparently, he is not supporting a compulsory system by which fractional systems would be forbidden by the state. But if he was right about the optimal

character of a 100-percent-reserve system, it is difficult to understand why the market would not select the optimal system. Moreover, according to Hülsmann, there would be a paradoxical situation in which competition would induce people to choose a fractional system and in which such a system would be ineluctably unstable and self-destructing. It is difficult to understand why, in the specific case of money, and only in this case, there would be any sort of market failure.

Hülsmann has another line of defense. He maintains that a bank developing a fractional system is fraudulent, since it is promising customers that it will redeem money substitutes for a fixed quantity of gold, and it is unable to do it. Some may deduce from this interpretation that the state is entitled to impose 100-percent-reserves, insofar as it would be in charge of preventing frauds. But is there really any element of fraud in a fractional-reserve system?

Let us in fact assume that, as a potential customer in a perfectly competitive monetary setting, I am offered the choice between two possibilities, namely holding notes issued by a producer under a 100-percent-reserve system or holding notes issued by a producer under a fractional-reserve system. Let us also assume that I have perfect information about the ways both producers operate. In the first case, I may have to pay for monetary services offered to me by the producer of money substitutes, or I may have to bear the already mentioned uncertainty costs implied by the low profitability of this producer. In the second case, I know that it may happen that I cannot redeem my money substitutes for money (gold). In both cases, the contracts I am signing with the producers of money substitutes are perfectly clear, and I have all the available information. If I decide that it is better for me to contract with the second producer and to bear the risk of illiquidity, I am totally responsible for this choice, and there is not the slightest element of fraud in the behavior of the banker and in our contract. I just prefer a certain structure of risks and charges over others and I decide that, from my own point of view—the only one to be considered—a fractional system is optimal. There is no justification for the claim of Hülsmann (or Murray Rothbard, or any other respectable economist) to decide on my behalf.

Even if we cannot demonstrate that a fractional system is preferable to a 100-percent-reserve system—any more than Hülsmann can demonstrate the superiority of a 100-percent-reserve system—we get some information from history. In fact, the first notes were backed by 100-percent-reserves, but fractional systems emerged little by little, and there was certainly a period during which both systems were competing.¹ And fractional systems were selected not as a consequence of some state regulation forbidding 100-percent-reserve systems, but because they better met the needs of producers and holders of money substitutes.²

¹It seems that, before 1650, scarce commercial banks issued “notes” for deposits of metallic money. Later on, British goldsmiths and the Bank of Stockholm issued notes for commercial bills, thus opening the way for fractional reserves.

²Later on, as everyone knows, the state monopolized the production of money substitutes and made possible an indefinite expansion of money substitutes via a steady decrease in the reserve ratio. But this is a completely different story. In that case, fractional systems—and their

Thus, let us assume that initially all monetary systems are based on 100-percent-reserves and that, little by little, they are transformed into fractional-reserve systems, just because these systems are preferred by the public and the money producers. It is quite true that, during the whole process of adjustment from one system to the other, there is a multiple creation of money substitutes, with all related effects (inflation, excess credits, over-investment, etc.). These effects are costly, but they may be viewed as a type of investment costs, those which have to be borne in order to shift from one given system to another preferred system. Now, these costs are only temporary costs (as any investment cost is). In fact, each issuer of money substitutes in a fractional-reserve system decides upon the reserve ratio which is viewed as optimal by him. By expanding the quantity of money substitutes beyond that point, the producer would increase unit gains, but he would lose the confidence of his clients and, probably, he would lose clients, which would imply a negative marginal gain.³ In a fractional-reserve system, there is thus a long-run equilibrium structure of reserve ratios. As soon as all issuers of money substitutes have reached their optimal positions, there is no more multiple expansion of money substitutes. (Or, to put it differently, the rate of growth of money substitutes is perfectly equal to the rate of growth of money, i.e., gold.) It means that, contrary to what Hülsmann seems to suggest, there is no possibility for an indefinite expansion of money substitutes.⁴ It is constrained by the amount of money (gold). If the possibility of an unlimited creation of money substitutes existed, it would mean that the free decisions of individuals, in a free-banking system with fractional reserves, would lead to a “socially” non-optimal situation, characterized by an excessive issue of money substitutes. By failing to distinguish between the long-run working of a fractional system and the (short-run) adjustment from a 100-percent-reserve system to a fractional system, Hülsmann suggests that a fractional system is costly and does not provide an optimal quantity of money.⁵ But, as we stressed above, there is an over-expansion of money substitutes only during the intermediate period and the effects of this over-expansion can be interpreted as investment costs.

actual workings—would have been adopted not because of their ability to meet the needs of individuals, but because of the possibility for the state to extract monopoly profits.

³Lawrence White (1995, pp. 141–42) perfectly explains why banks are not inclined to exceed this optimal reserve ratio.

⁴This was stressed by Ludwig von Mises, according to whom “Free banking keeps credit expansion within narrow limits” and, even, “within very narrow limits” (Mises 1949, p. 443). According to Philippe Nataf, statistics of the Massachusetts House and Senate show that bank credit expansion under free competition has been kept below 1 percent a year for more than five decades. One may also quote Murray Rothbard, who wrote that “if these banks are not to be based on 100-percent specie reserve, which Say indicates would be the best system, competition would keep (the banks) investing in sound, very short term credit which could easily be used to redeem their bank notes” (Rothbard 1996, p. 40).

⁵We certainly agree with him when he stresses that any quantity of money meets the needs of money users.

Similarly, we cannot accept the idea expressed by Hülsmann according to which a fractional system is necessarily unstable and creates a systemic risk because of a contagion effect. According to him, whenever a sufficiently large bank goes bankrupt, the whole system breaks down. Such an effect may happen, but, contrary to Hülsmann's presentation, it cannot be considered as an inherent feature of every fractional system. In fact, the systemic risk depends on the precise institutional characteristics of the system. For instance, if the convertibility contract between a bank and its customer includes an option clause according to which the bank can suspend convertibility for a while, the holder of money substitutes does know in advance that there is a risk and that he may be obliged to remain in the position of a creditor of his bank longer than he would have expected. But an illiquidity crisis does not necessarily imply the failure of the bank (for instance if it has a high net worth and it can sell a huge amount of assets (Nataf 1993, pp. 97–106). And if it goes bankrupt, it may well happen that all holders of money substitutes finally get back the gold counterpart of their holdings.

Let us also imagine the case of a banking cartel in which all participants give convertibility guarantees for their own notes against the notes of others. These guarantees may be conditional, which means that whenever one bank is expanding money creation too much and there is a potential or actual risk of illiquidity, the other banks may suspend their convertibility guarantees. In such a case, there is a clear signal given to the market that all banks are safe except the one which, in fact, has been evicted from the cartel. Therefore, there is no reason for the holders of money substitutes issued by these banks to be anxious about their ability to meet their contractual obligations and there will be no run on their gold reserves. There may be a great number of institutional devices which may make the probability of systemic risk unimportant. As the owners of banks do not wish to go bankrupt, in a free banking system they would experiment with different institutional systems which might be able to avoid systemic risk. If there are several monetary cartels issuing various money substitutes and competing one with one another, they may develop different institutional systems and, little by little, the best ones will be selected. Therefore, there is no logical basis for claiming that an indefinite expansion of money creation is unavoidable in a fractional system. It all depends on the specific characteristics of the monetary system.

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FREE BANKING AND FRACTIONAL RESERVES: REPLY TO PASCAL SALIN

JÖRG GUIDO HÜLSMANN

Pascal Salin's (1998) critique of my article "Free Banking and the Free Bankers" (1996) raises several important issues about the theory of banking. However, I think that a closer look at them strengthens rather than weakens the case for a 100-percent-reserve system.

Salin claims that under 100-percent-reserve banking "there is not a perfect certainty that money holders can get their money back, since the issuer of money substitutes may go bankrupt" (p. 61). This observation is entirely correct. Yet no advocate of 100-percent reserves has ever claimed that this system would *exclude* business failures. The argument is that it leads to *fewer* bankruptcies than does fractional-reserve banking. The very existence of fractional reserves implies an additional source of bankruptcy, that is, a source of failure that is absent from 100-percent-reserve systems. For the same reason, Salin's statement that under 100-percent reserves "the issuer of money substitutes necessarily fails, except if he can find some means to make people pay for the services he offers them" (p. 61) is also true but irrelevant. For this is the *definition* of failure. *Every* business fails if the entrepreneur does not manage to make people patronize his services. No particular feature of 100-percent reserves is involved here.

On the problem of how a note-issuing bank can make people pay for the cost of gold storage, Salin states that "notes issued at different dates would have different gold prices and would no more be perfect substitutes, so that their liquidity would be lowered" (p. 62). It is true that 100-percent reserves would *in praxi* mean that most small and medium-size payments would be effectuated in specie and that most people would store their money by themselves rather than pay banks for storage services. Salin's observation suggests that bank notes would, in most cases, be used only once and only for large-scale payments. Yet is there really any problem involved? Is it an end in itself that bank notes be used? Only if this were the case would Salin's objection hold true.

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I do not think that the use of bank notes could ever be justified as an end in itself and that, therefore, the real issue is *how many* bank notes should be used. Now, what is the standard of reference by which one can discern the *right* quantity of money substitutes? I submit that there is but one possible standard, namely, to accept the decisions of the money owners. Whatever quantity of notes is issued on a 100-percent-reserve basis is, *ex ante* at least, the right or optimal quantity. If one violently prevents the banks from issuing this quantity then this would be a case of forced disassociation. And if a fractional-reserve system were imposed on the market participants, this would then be a case of forced association.

Salin's point of view is a different one. He claims that "optimality cannot be defined independently of the wants of individuals" (p. 62). However, this standard of reference is conceptually meaningless and practically irrelevant since it presupposes that inter-individual comparisons of utility are possible. The problem is that the wants of individuals can be contradictory. My preference is that my banker does not lend out my money holdings to other people. My banker's preference is precisely the opposite. What, then, is the right decision to take on the basis of the "wants of individuals?"

Salin might respond that whether my deposits are 100 percent covered or not is a matter of agreement between my banker and me. Yet in taking this stance he would admit that property, not wants, is the real standard of reference to which the optimality of a system must be gauged. And this is the whole point that the opponents of fractional reserves are trying to make. They do not decide "*from outside* that a 100-percent-reserve system is optimal." Rather, they judge the matter from the only possible point of view, namely, from the standpoint of voluntary agreements between property owners. Because this is the point of view that any participants in this debate implicitly adopt, it is senseless to accuse me of "constructivism." True, it is a form of "constructivism" to advocate the establishment and maintenance of property rights because there is another logical possibility, namely, to advocate a system of catch-as-catch-can. However, there is no such thing as society and markets outside a framework of private property. And whoever sets out to discuss problems that can only emerge within society (for example, problems of banking) takes private-property rights for granted. The very fact that Salin analyses banking problems implies that he too adopts a "constructivist" position. But whereas mine is a coherent constructivism, his is contradictory.

With this in mind, it is easy to answer the question whether the market would select a 100-percent-reserve system. Because this banking system is the only one that conforms to the fundamental condition of any market, namely, respect for private-property rights, there is a market in banking *only if and insofar as* all money substitutes are covered 100 percent. In short, it is meaningless to talk about a "market" that selects fractional-reserve banking. One could as well claim that the market selects robbery to acquire cars or that it selects murder of present jobholders or tenants to get their jobs or apartments. People might choose very bad ways to acquire the goods that they desire, but only if and insofar as they

choose to respect their fellows' property can they be said to interact within a market framework. From this it follows that we do not have to make experiments to know what a market in banking would be like in this respect.

A real market in banking *implies* 100-percent reserves. The fact that people have an incentive to use fractional-reserve banking is no more surprising than the fact that robbers have incentives. It is not competition (which presupposes private property) but malice or ignorance that induces people to choose a fractional-reserve system. And the fact that in the real world both fractional- and 100-percent-reserve banking might coexist is due to the same reason that tax-financed production might coexist with production that is exclusively financed by private patrons. Such coexistence merely displays the moral condition and the degree of enlightenment of the population. The instability of fractional-reserve banking is an emanation not of market failure but of moral and intellectual shortcomings.

Even in historical retrospect, Salin's contention that "fractional systems were selected not as a consequence of some state regulation forbidding 100-percent-reserve systems, but because they better met the needs of producers and holders of money substitutes" (p. 63) is questionable. The fact is that in the early nineteenth century, British and American courts ruled against 100-percent-reserve banking in a series of important decisions: *Carr v. Carr*, *Devaynes v. Noble*, and *Foley v. Hill et al.* The courts ruled that bank deposits were not bailments but credits to the banks (Rothbard 1983, pp. 93ff; 1994, pp. 42f). The consequence was that, rather than seeing the bankers as embezzlers (criminals), the depositors were depicted as bad investors. These decisions, instances of state intervention in the market economy, were crucial for the modern history of banking. One might object that even private courts could have taken these decisions. My response would be that it does not matter how violations of property originate. If and insofar as property is violated there is no market.

Salin seems to misunderstand my argument against the feasibility of fractional-reserve banking. I do not claim that fractional-reserve banks can indefinitely increase their issues of fiduciary media or that there is no "optimal position" for them to reach. My point is that the banks do not *know* this optimal position and that, whereas this is admittedly a problem of all business, only in fractional-reserve systems does bankruptcy of one bank lead to the contagion-induced failure of all other banks. The conservative banking cartels that Salin describes might *delay* the breakdown of the whole system, but they cannot prevent it.

The decisive fact is that operating on a lower reserve ratio is a competitive advantage. Salin does not deny this point. Yet once it is conceded, one must admit that this advantage can only be for some time *counterbalanced* by the verdict of established and more conservative banks. But what happens if a long-since established bank, which has accumulated confidence capital over decades, announces that it will decrease its reserves? And why should this take so long in a truly free market? Today's experience can hardly tell us how dynamic a competitive banking system would be because we know the bureaucratic remnants of what were once banks.

Neither do option clauses change the imminent threat of contagion crises. They have the same effects as the introduction of central banks, namely, to provide temporary Band-Aids that do not remedy the fundamental disease. If the customers accept option clauses, the banks can issue ever more fiduciary media. Thus, the same old problem of bankruptcy and contagion emerges on a larger scale. It is also wishful thinking to indulge in the "high net worth" of a bank, which "can sell a huge amount of assets" (p. 65). How much the bank is worth and whether its assets are huge or tiny depends on the money prices paid on the market. If people do not trust fiduciary media anymore and there is a run on the banks to reclaim their money, then the quantity of money in the larger sense (which determines the height of money prices) shrinks within a second. And with it shrink the assets of the banks and their net worth is reduced to a fraction of what the bankers believed it to be. *This* is how a crisis works out. Today the central banks prevent such things at the cost of still more inflation (and regulation). Yet this should not delude us about the nature of fractional-reserve systems.

According to Philippe Nataf, whom Salin quotes, early-nineteenth-century, fractional-reserve banks in New England were spared from contagion crises. However, from this one instance we cannot infer that this system was stable *because of* the bank reserves being fractional. Theoretical insight suggests that these banks operated smoothly *despite* their adoption of the wrong system. Other factors (for example, the conviction that more than 30 percent of uncovered bank notes were "unsound") must have more than counterbalanced the negative influence emanating from the fractional reserves and thus prevented those exaggerations that precipitated banking crises in other regions.

Let us finally deal with the question of whether fractional-reserve banking is an instance of fraud. Salin discusses this problem from the point of view of someone who is offered fiduciary bank notes. In his eyes, the problem boils down to a choice between two risk-chance positions. There can be no question of fraud as long as contracts are voluntary:

If I decide that it is better for me to contract with the second producer [offering fiduciary media] and to bear the risk of illiquidity, I am totally responsible for this choice, and there is not the slightest element of fraud in the behavior of the banker and in our contract. (p. 63)

Now, at first glance it seems as if, from the point of view of this person, there is really no problem involved. Yet consider the case of a receiver of stolen goods. Would Salin go so far as to assert that it is just a question of risk and chance whether one should buy from him or from a rightful owner of that kind of good? Obviously, the moral case for fractional-reserve banking relies on an affirmative answer to this question. I need not dwell on the fact that there could be no civilization if this were a generally accepted doctrine. The fundamental fact is that freedom of contract already presupposes property rights and the respect of property rights. As Hans-Hermann Hoppe has lucidly stated:

Freedom of contract does not imply that every mutually advantageous contract should be permitted. Clearly, if A and B contractually agree to rob C, this would *not* be in accordance with the principle. Freedom of contract means instead that A and B should be allowed to make any contract whatsoever *regarding their own properties*, yet fractional-reserve banking involves the making of contracts regarding the property of third parties. (1994, p. 70)

In other terms, he who accepts fiduciary media does *not* “bear the risk of illiquidity” and he is *not* “totally responsible for this choice.” The bank customer fraudulently socializes the risks of his activity and the responsibility for his choice. To challenge this critique, Salin would have to focus on a slightly different case. Assume that you own a sum of money and that you have the choice to deposit your property either in a 100-percent or in a fractional-reserve bank. Is it not entirely up to you to choose the second alternative? And if you do so, would it not be entirely proper behavior on the part of the banker to create fiduciary money substitutes, using your money as backing? It seems to be difficult to deny this. Yet problems arise as soon as one takes a closer look at this “contract” with the fractional-reserve bank. What precisely is it about? The astonishing answer is, *one cannot tell*. For in fractional-reserve banking, all customers have the right to use the same deposited money. The owner may withdraw his deposit at any time, and the banker may use it during the whole time until it is withdrawn. This clearly contradicts the very idea of contracts, which is to determine who, and at which time, has the right to use a given object. Both the customer and the banker, in their dealings with other market participants, represent themselves as the owners of the deposit. Their “contract” implies that two titles for one and the same property are now used in market exchanges. This is a clear instance of fraud (Hoppe et al. 1998).

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LUDWIG VON MISES ON THE GOLD STANDARD AND FREE BANKING

JEFFREY M. HERBENER

George Selgin and Lawrence White have sought to tie their modern free banking school to the views of Ludwig von Mises.¹ In a recent article, Selgin has attempted to state, critique, and improve upon Mises's defense of the gold standard, while White, in a contribution to a *Festschrift* for Hans Sennholz in 1992, has attempted to demonstrate that Mises favored fractional-reserve free banking (Selgin 1999; White 1992). Whatever the validity of their own views on the gold standard and fractional-reserve free banking, their assessments of Mises's positions on these issues are dubious.

THE IDEAL MONETARY SYSTEM

Selgin begins by claiming that “contrary to the impressions conveyed by some of his followers, Mises did not defend the gold standard on ideological or moral grounds”; but instead “Mises defended the gold standard . . . because he was convinced that a managed fiat money would prove less stable than gold.” Selgin then seeks to show “how Mises's argument involves a peculiar and unsatisfactory blend of consequentialism and strict a priori reasoning.” On the consequentialist branch, Selgin claims that “his case for gold was based in large part upon his denial of the possibility of measuring, even approximately, money's purchasing power.” And on the *a priori* branch, asserts that Mises failed “to make a convincing a priori case for the gold standard” by arguing “that disagreements concerning the direction and extent of changes in money's purchasing power must render a managed fiat money a

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¹One example is their aptly entitled article, “In Defense of Fiduciary Media—or, We are Not Devo(lutionists), We are Misesians!” (1996).

plaything of politics” and thus less stable than the gold standard (Selgin 1999, pp. 259-60).

According to Selgin, the ideal monetary system for Mises permits changes in money’s purchasing power from the goods side, that is, from changes in demands for and supplies of goods, but not from the money side, that is, from changes in demands for and supplies of money. Quoting Mises, Selgin writes:

While recognizing that the more popular ideal was that of a money “whose objective exchange value is not subject to any variation at all, *whether originating on the money side or on the commodity side*” (emphasis in original), Mises held “a money with an invariable exchange value, *so far as the monetary influences on its value are concerned*” (emphasis added) to be the ideal “of enlightened statesmen and economists.” (1999, p. 262)

Selgin, however, is mistaken in asserting that Mises agreed with these enlightened statesmen and economists. To the contrary, Mises found fault in both the “popular” and the “enlightened” views. Concerning the latter, Mises wrote:

The ideal of a money with an exchange value that is not subject to variations due to changes in the ratio between the supply of money and the need for it . . . demands the intervention of a regulating authority in the determination of the value of money; and its continued intervention. But here immediately most serious doubts arise from the circumstance, already referred to, that we have no useful knowledge of the quantitative significance of given measures intended to influence the value of money. More serious still is the circumstance that we are by no means in a position to determine with precision whether variations have occurred in the exchange value of money from any cause whatever, and if so to what extent, quite apart from the question of whether such changes have been effected by influences working from the monetary side. Attempts to stabilize the exchange value of money in this sense must therefore be frustrated at the outset by the fact that both their goal and the road to it are obscured by a darkness that human knowledge will never be able to penetrate. (1980, p. 269)²

Mises thought it impossible to distinguish the causal forces behind a change in prices merely from the knowledge of the price changes themselves. That these causal forces are inextricably intertwined is implied from the nature of a foundational concept in economics, namely, preference. Since preference in a market economy normally is manifested by an exchange of money for goods, any time a ranking changes, for example, a unit of good is now ranked above a sum of money instead of below it, one cannot distinguish

²It should be noted that contrary to Selgin and other proponents of modern free banking, Mises thought that a government-regulated money system was necessary to achieve the ideal “of enlightened statesmen and economists.”

from this fact alone whether the change is an increased demand for the good or a decreased demand for money. In fact, they are two ways of looking at the same thing. (Mises 1980, pp. 146, 153).

Although the division of determinants of changes in the exchange value of money into goods-side factors and money-side factors plays an essential role in developing theory about particular issues of money's value, it has no observable manifestation. Therefore, one cannot infer from the fact of a changed rank order of goods, let alone from the effects of such a change—for example, a rising exchange ratio of one good in terms of another—whether the value of one good has risen or the value of the other has fallen. Preferences are always relative, that is, comparisons between two options. This fact directly applies to questions concerning the measurement of money's value. Mises wrote:

There are two parts to the problem of measuring the objective exchange value of money. First we have to obtain numerical demonstration of the fact of variations in the objective exchange value of money; then the question must be decided whether it is possible to make a quantitative examination of the causes of particular price movements, with special reference to the question whether it would be possible to produce evidence of such variations in the purchasing power of money as lie on the monetary side of the ratio. (1980, pp. 216-17)

Mises discusses the issues raised by attempts to measure money's value in considering the monetary policy proposed to achieve the inflationists' goal of perpetually stimulating economic activity and expanding exports while contracting imports. Although it is easy to imagine a situation in which the value of money falls by a constant rate, Mises denied that anyone could put such a monetary system into effect. He wrote:

But however clearly we may be able to imagine such a monetary system, it certainly does not lie in our power actually to create one like it. We know the determinants of the value of money, or think we know them. But we are not in a position to bend them to our will. For we lack the most important prerequisite for this; we do not so much as know the quantitative significance of variations in the quantity of money. We cannot calculate the intensity with which definite quantitative variations in the ratio of the supply of money and the demand for it operate upon the subjective valuations of individuals and through these indirectly upon the market. This remains a matter of very great uncertainty. In employing any means to influence the value of money we run the risk of giving the wrong dose. This is all the more important since in fact it is not possible even to *measure* variations in the purchasing power of money. Thus even though we can roughly tell the direction in which we should work in order to obtain the desired variation, we still have nothing to tell us how far we should go, and we can never find out where we are already, what effects our intervention has had, or how these are proportioned to the effects we desire. (1980, pp. 256-57; emphasis in original)³

³Also, see, *idem*, pp. 218-19 and 270-71.

Even if it were possible to accurately measure changes in money's purchasing power, policies to keep it falling at a constant rate (or for that matter stable) cannot be practiced because effects on money's purchasing power from changes in the money supply are determined by the subjective valuations of individuals as they change their preferences in the new situation. The impossibility of measuring money's purchasing power compounds the difficulty of forming policy, but it is not the root problem. Moreover, what gives rise to the political pressure that Selgin mentions is precisely the uncertainty about the need to intervene and the proper extent of intervention to counteract any undesirable changes in money's purchasing power, not "measurement problems" (Mises 1980, p. 269). As discussed below, Mises thought that the problems of measuring changes in the purchasing power of money that Selgin refers to, although theoretically impossible to solve, do not obstruct the conduct of monetary policy.⁴

Because these political pressures to conduct monetary policy would be absent in a gold standard, Mises concluded that a gold standard eliminates any arbitrary influence on money's purchasing power from the money side. Without this source of "instability," the gold standard is in theory more "stable," than a fiat money standard. About the political influences, Mises concluded:

These possibilities, and the remembrance of very recent experiments in public finance and inflation, have subordinated the unrealizable ideal of a money with an invariable exchange value to the demand that the state should at least refrain from exerting any sort of influence on the value of money. A metallic money, the augmentation or diminution of the quantity of metal available for which is independent of deliberate human intervention, is becoming the modern monetary ideal. (1980, p. 269-70)

Far from joining the "enlightened statesmen and economists" in advocating a managed fiat money as the monetary ideal, Mises claimed that they were coming over to his view of the monetary ideal, that is, a metallic standard not subject to policy discretion. He based his claim on the following logic: eminent statesmen and economists desire a monetary system in which money-side fluctuations are absent; this requires a government managed system; but such a system will introduce an arbitrary destabilizing money-side influence on money's purchasing power; therefore, a metallic standard, although not without money-side influences on money's purchasing power, will be more stable; to most nearly attain their goal, the eminent statesmen and economists should prefer a metallic standard (Mises 1998, chaps. 26 and 27). Mises wrote:

The significance of adherence to a metallic-money system lies in the freedom of the value of money from state influence that such a system guarantees. . . . It is true that [money-side] effects, in the case of gold (and even in the case of silver), are not immoderately great, and these are the only

⁴Selgin (1999, p. 267) himself quotes Mises on this very point.

two monetary metals that need be considered in modern times. But even if the effects were greater, such a money would still deserve preference over one subject to state intervention, since the latter sort of money would be subject to still greater fluctuations. (1980, p. 270)

Mises, then, was not asserting what Selgin (1999, p. 262) claims for him, that is, an “ideal of money with a constant inner objective exchange value (but with an *outer* exchange value that varied directly with changes in real output).” Instead, Mises was demonstrating why the advocates of such an ideal should prefer a gold standard. Mises’s own reasons for favoring a gold standard, which are examined below, were much broader and deeper; in part ideological, in part theoretical, and in part historical.

THE PROPER TARGET FOR MONETARY POLICY

Selgin (1999, p. 262) also criticizes Mises for failing to recognize that the ideal he claims for Mises is “in essence, equivalent to the modern idea of a nominal income (GDP) target.”⁵ This equivalence, according to Selgin, obviates the need to construct a price index as a target for monetary policy and thus sidesteps Mises’s criticisms of using a price index in conducting monetary policy—which, to reiterate, Selgin considers Mises’s primary criticism of policy that targets money’s purchasing power. He speculates (Selgin 1999, p. 267) that one reason “Mises himself . . . never recognized the equivalence of a stable inner objective exchange value of money and stable nominal income” was “his refusal to employ the equation of exchange as a tool of reasoning.” It seems unnecessary to speculate on his reasons, however. As outlined above, Mises thought the fundamental problem in conducting monetary policy that targeted money’s exchange value was the impossibility of bifurcating goods-side and money-side influences on the purchasing power of money. No one can detect from any particular change in price of something what the underlying causal force is, whether it is goods side or money side. Therefore, one cannot find an accurate quantitative division of the total change in price into goods-side and money-side influences. Absent this division, one cannot determine the correct dose of monetary expansion or contraction, or even whether the money supply should be increased or decreased to hit the target. Mises did argue, as Selgin claims, that there is no unique, correct way to construct a price index and thus, using some price index as a measure of changes in money’s purchasing power is arbitrary and the selection of which one to use is then subject to political pressure. But this point is not his fundamental criticism of a monetary policy that aims at eliminating money-side influences on prices. Even if some price index did, with unique correctness, measure

⁵Selgin deduces this from the quantity equation, $MV=Py$, by rearranging terms to show that $1/P=y/MV$ and thus nominal income (which equals MV) is equivalent to the money-side influences and is separable from the goods-side influences (namely, y) on money’s purchasing power (namely, $1/P$).

changes in the purchasing power of money (so that all parties would agree to adopt it), one could not use the knowledge it provided about changes in money's purchasing power to bifurcate the total change into goods-side and money-side influences (Mises 1980, p. 218). The problem Selgin cites is just another strike against a managed fiat-paper money system for Mises, but not the decisive blow.

Moreover, it is doubtful that Mises would agree with Selgin's claim that such bifurcation can be done based on the equivalence between a stable nominal income and a stable inner objective exchange value of money. His rejection of Selgin's claim can be inferred from his discussion of Wieser's proposal to use real and nominal income as a method of calculating a price index (Mises 1980, pp. 219-20). Although not identical to Selgin's constant nominal income target, Wieser's scheme elicited the following criticism from Mises that can be applied to Selgin's suggestion. Mises wrote:

The technical difficulties in the way of employing this method, which is the most nearly perfect and the most deeply thought out of all methods of calculating index numbers, are apparently insurmountable. But even if it were possible to master them, this method could never fulfill the purpose that it is intended to serve. It could attain its end only under the same supposition that would justify all other methods; namely, the supposition that the exchange ratios between the individual economic goods excluding money are constant, and that only the exchange ratio between money and each of the other economic goods is liable to fluctuation. This would naturally involve an inertia of all social institutions, of population, of the distribution of wealth and income, and of the subjective valuations of individuals. Where every thing is in a state of flux the supposition breaks down completely. (1980, p. 220)

Only if one assumes that goods-side influences are unchanged can he identify, from any change in price, the money-side influence. But goods-side influences are in continual flux and indissolubly intermixed with money-side influences. And this is true whether nominal income is rising, staying the same, or declining. A constant nominal income does not ensure constancy of the underlying demands for and supplies of goods and money and thus is no guide to bifurcating goods-side and money-side influences and, by implication, no guide to monetary policy that targets money's value. Moreover, if nominal income could be kept constant only by a government policy of changing the money stock to offset any changes in money demand (thereby neutralizing any money-side influence) as Mises thought would be necessary to conduct such monetary policy, far from neutralizing the effect of the change in money demand, this would inject a second money-side influence into the economy on top of the (presumed) change in money demand.⁶ Even if monetary policy could put the additional money directly and immediately into the

⁶This conclusion follows from Mises's concept of the nonneutrality of money. See Mises (1980, pp. 61-62 and 160-68; 1998, p. 414).

hands of those particular people whose money demands had changed and in an amount proportional to the changes in money demand for each person, a change in money supply would still fail to neutralize a change in money demand since the effects on prices of the two changes are determined by subjective valuations, which can be different in different circumstances (Mises 1980, pp. 218-19). What makes the managed monetary system less stable than the gold standard, according to Mises, is that it lacks this policy-induced money-side influence on money's purchasing power.

THEORY AND HISTORY

Selgin alleges another problem with Mises's arguments about a gold standard vis-à-vis a fiat-money standard: inconsistency between his two conclusions. On the one hand, Mises holds that "gold is to be preferred to managed (fiat) money because of the lack of a reliable measure of money's purchasing power," but, on the other hand, he holds that "gold is to be preferred to managed money because the gold standard is more stable in practice" (Selgin 1999, p. 265). Selgin's assessment of Mises's case for gold is wrong on both counts. As discussed above, his claim that Mises favored gold because of the impossibility of constructing a scientific, that is, non-arbitrary, measure of money's purchasing power ignores Mises's more fundamental argument about the impossibility of bifurcating money-side and good-side influences on money's purchasing power. Selgin's claim that Mises preferred the gold standard because of its superior stability is also wide of the mark. One of the distinguishing features of Mises's monetary theory is his position that monetary stability is a chimera. Mises was fully aware that no monetary system, the gold standard included, could be judged on this ground. "The purchasing power of gold is not stable," he wrote, "but the very notions of stability and unchangeability of purchasing power are absurd." Even so, what Mises claimed for the gold standard is that "nobody is in a position to tell us how something more satisfactory could be put in [its] place." Mises did not think that the gold standard was the best monetary system because it was the most stable. His defense of the gold standard on this point was that it fettered the inflationary impulse of government, not that it attained the utopia of stability. "The adversaries of the gold standard do not want to make money's purchasing power stable," he wrote, "they want rather to give to the government the power to manipulate purchasing power without being hindered by an 'external' factor, namely, the money relation of the gold standard" (Mises 1998, pp. 470-71).

But even if Selgin's assessment of Mises's arguments was correct, his own demonstration that Mises was inconsistent is faulty. Quoting Mises, Selgin writes:

Ultimately Mises has no choice but to abandon his extreme position concerning the uselessness of index numbers. This allows him to suggest that gold has indeed performed better historically than irredeemable paper. It also serves to effectively undermine his claim that measurement problems

alone must render a managed money standard impracticable: “The inadmissibility of the methods proposed for measuring variations in the value of money does not obtrude itself too much if we only want to use them for solving practical problems of economic policy.” (1999, p. 267)

Selgin has here mischaracterized Mises’s claims. Although Mises did demonstrate the impossibility of any price index to measure money’s purchasing power with scientific accuracy (or to divide goods-side from money-side influences on money’s purchasing power, as shown above), he did not claim that “measurement problems alone must render a managed money standard impracticable.” Mises did not even hold that a price index was useless for every purpose. Continuing from the quotation Selgin cites above, Mises wrote:

Even if index numbers cannot fulfill the demands that theory has to make, they can still, in spite of their fundamental shortcomings and the inexactness of the methods by which they are actually determined, perform useful workaday services for the politician.

If we have no other aim in view than the comparison of points of time that lie close to one another, then the errors that are involved in every method of calculating numbers may be so far ignored as to allow us to draw certain rough conclusions from them. . . . [W]e can follow statistically the progress of variations in purchasing power from month to month. (1980, p. 222)

Although Selgin denies the validity of Mises’s approach, by which he holds simultaneously that a price index is useless in a theoretical task but useful in a practical task,⁷ Mises (1985) grounded this position in his distinction between praxeology, the logic of action, which is the method of economic theory, and *verstehen*, the specific understanding of action, which is the method of history. Some claims impermissible in one realm are permissible—and, in some cases, indispensable—in the other. For example, praxeology says nothing about the particular concrete ends that action aims to attain or the particular means a person employs in action, instead treating ends and means in a purely conceptual manner, but *verstehen* must make statements about the particular ends that individuals aim to attain by employing particular means. Mises held that theory is the prism through which historical events are understood, but without investigation into the concrete circumstances of events, theory alone could not render historical understanding. Although one must take care in interpreting data, these data can serve the purpose of historical investigations even though they are suspect in theoretical purposes. Many types of data could fall into this category: national income, average wages, and per-capita capital stock, just to name a few. All of these may find a use in historical explanations while being deficient for theoretical purposes.

Instead of recognizing Mises’s distinction between theory and history, Selgin asserts that Mises is making a strictly theoretical argument. He chides

⁷For Selgin’s position on this distinction, see Selgin (1999, p. 265).

Mises for noting, in defense of his pro-gold position, that the most extreme inflations have been with fiat paper money, such as in Germany after the First World War. Selgin (1999, p. 266) takes Mises to be making an “argument” from this observation that “fiat money is generally inferior to gold,” which, if he was doing, Selgin would be correct in deeming it “far from adequate.” But Mises was not trying to prove a theoretical point with this historical observation; he was simply illustrating that in fact fiat-paper standards have had more extreme episodes of price inflation than gold standards. The theoretical demonstration of why one should expect to find this result in history is his argument about the political impetus to inflate with a managed fiat-money system examined above.

Moreover, contra Selgin, Mises did not think it possible to construct an *a priori* argument for gold, much less the “public-choice style argument” Selgin assigns to him.⁸ Mises (1998, p. 402) accepted Carl Menger’s demonstration that money can only originate on the market and considered it “an irrefutable praxeological theory.” Just as the pre-monetary barter market gave birth to a medium of exchange, as a widely salable commodity, money’s development can be left to the market. The use of a medium of exchange becomes more widespread because traders see it in their interest to use a medium that is more widely traded. The more traders who use it the more attractive it becomes as a medium. Also, people will supplant commodities less able to perform the medium of exchange function with those better able to do so, and thus the precious-metal standard emerges. “Men have chosen the precious metals gold and silver for the money service,” Mises (1998, p. 468) wrote, “on account of their mineralogical, physical, and chemical features.” Although the use of money can be known praxeologically, the particular standard can only be known from the concrete facts of history. “The use of money in a market economy,” (Mises 1980, p. 468) “is a praxeologically necessary fact. That gold—and not something else—is used as money is merely a historical fact and as such cannot be conceived by catallactics.” Mises neither thought that any *a priori* case could be made for any particular precious metal, such as gold (but only an historical one), nor did he make any “public-choice-style arguments” in favor of gold. Contra Selgin, his argument for the gold standard had both ideological and historical elements.

THE IDEOLOGICAL BATTLE OVER THE MONETARY STANDARD

The use of the precious metals was historically the choice of the market. Without interference from governments, traders adopted the parallel standard

⁸Selgin claims that Mises “implicitly employs something like a Rawlsian ‘veil of ignorance’ argument” in defending the gold standard. He then goes on to criticize Mises on the grounds that this argument “confuses the ignorance induced by donning a Rawlsian veil with ignorance *tout court*” (1999, p. 269). The argument Mises actually made in defense of the gold standard is outlined below.

using gold and silver as money (Mises 1998, p. 419). During the nineteenth century, however, interventions on the part of various governments supplanted the parallel standard of gold and silver with the monometallic gold standard. Some governments intended to do so, and others did so as a secondary effect of pursuing other ends. "Once the economically most advanced nations had adopted the gold standard," Mises (1998, p. 469) wrote, "all other nations followed suit." Once in place, however, the gold standard provided an international money that permitted the development of a worldwide division of labor, which was the "greatest and most beneficial of all historical changes," Mises wrote. It increased welfare, spread liberty, and "accompanied the triumphal unprecedented progress of Western liberalism ready to unite all nations into a community of free nations peacefully cooperating with one another" (Mises 1998, p. 470).

The fly in the ointment of the classical gold standard was precisely that since it was created and maintained by governments, it could be abandoned and destroyed by them. As the ideological tide turned against *laissez-faire* in favor of statism, governments intent upon expanding the scope of their interference in and control of the market economy found it necessary to eliminate the gold standard. Nationalists wanted autarky, pressure groups sought higher wages, and, most important of all, demands were made for credit expansion by which everyone could be made prosperous and happy. "Only the gold standard," Mises (1998, p. 470) wrote, "that devilish contrivance of the wicked and stupid 'orthodox' economists, prevents mankind from attaining everlasting prosperity."

For Mises the political problem of the monetary standard did not revolve around a narrow rent-seeking cabal of special-interest groups haggling over which price index to target with monetary policy. It arose from ethnic and ideological forces, both political and economic. Selgin's (1999, pp. 259-60) focus on Mises's claim "that disagreements concerning the direction and extent of changes in money's purchasing power must render a managed fiat money a plaything of politics," is the proverbial tip of the iceberg. The impetus behind inflation and the destruction of the gold standard was much broader and squarely ideological. "[G]eneral acceptance [of the gold standard] requires the acknowledgement of the truth that one cannot make all people richer by printing money," Mises (1998, pp. 471-72) wrote, "the abhorrence of the gold standard is inspired by the superstition that omnipotent governments can create wealth out of little scraps of paper." Those who propagated this superstition "loathed the gold standard" because they were "intent upon sabotaging the evolution toward welfare, peace, freedom, and democracy," Mises wrote, "in their eyes the gold standard was the *labarum*, the symbol, of all those doctrines and policies they wanted to destroy. In the struggle against the gold standard much more was at stake than commodity prices and foreign exchange rates" (1998, p. 470). Mises wrote:

The struggle against gold which is one of the main concerns of all contemporary governments must not be looked upon as an isolated phenomenon. It is but one item in the gigantic process of destruction which is the

mark of our time. People fight the gold standard because they want to substitute national autarky for free trade, war for peace, totalitarian government omnipotence for liberty. (1998, p. 473)

What the advocates of inflation find objectionable about the gold standard is precisely that it constrains the government's ability to inflate, and by limiting this power, cripples its ability to attain the ends at which the advocates of inflation aim. "What the expansionists call the defects of the gold standard are indeed its very eminence and usefulness," Mises wrote, "it checks large-scale inflationary ventures on the part of governments." The "inflationists" destroyed the gold standard "because they were committed to the fallacies that credit expansion is an appropriate means of lowering the rate of interest and of 'improving' the balance of trade" (Mises 1998, pp. 471-72). By defending the gold standard, Mises was defending the world economy from its ideological enemies.

COSTS AND BENEFITS OF THE GOLD STANDARD

The manner in which a supplier of gold coin, whether private enterprise or a government agency, is restrained from inflating the money stock under a gold standard is the market's imposition of gold's production costs on the profitability of its production. "The significance of the fact that the gold standard makes the increase in the supply of gold depend upon the profitability of producing gold is, of course," Mises wrote, "that it limits the government's power to resort to inflation." As a result, money's purchasing power is made independent of politics, which "is not a defect of the gold standard; it is its main excellence" (Mises 1998, p. 471). Moreover, Mises pointed out that the lower the costs of producing gold coin sink, the greater would be the incentive to produce and supply more. If, say through technological innovation, production costs became negligible, as with a fiat paper money, the incentive to inflate would be nearly unlimited. Then gold would no longer be useful as money and traders would need to replace gold with something else (1998, p. 473).

Far from recognizing Mises's argument that the cost of producing gold was a bulwark against inflation, Selgin's only mention of his views on the costs of gold production is as a "social cost of deflation." "Under a gold standard," Selgin (1999, p. 261) writes, "deflation becomes equivalent to a rising relative price of gold, which in turn means a greater diversion of resources to gold mining." But here again Mises is discussing this question in a historical context, namely, the "extension of the money economy," where he presumes that money's purchasing power would have risen in the absence of the "extension of money-economizing means of payment," such as the clearing system and fiduciary media (Mises 1980, p. 333). Mises's assessment of the force behind potential deflation as he looked back upon history in 1924 was the historical spread of the worldwide division of labor. He (Mises 1980, p. 359) is not discussing the growth of an existing monetary economy, but the extension

of the use of money and the money economy.⁹ In that period of history when the money economy was spreading across the world, price deflation would have been observed had it not been for the extension of money-economizing means of payment, Mises presumes, and along with it the diversion of factors of production into producing the monetary metal and, thus, the social costs of deflation. But that period of history is over. The world economy became a reality, and with it the possibility of a disruptive type of deflation evaporated.

Moreover, Joseph Salerno has demonstrated that in completing his monetary theory during the years from 1912 to 1949, Mises abandoned the view he held earlier that “an increase in the purchasing power of money is somehow disadvantageous for the market economy.” By the time Mises penned *Human Action*, he realized that when money demand increased as the result of economic growth—even with a constant money stock and, therefore, a rising purchasing power of money—it would not impair the process of pricing or economic calculation. Thus, economic growth would not be retarded (Salerno 1993, pp. 143-45).

White makes a much stronger claim than Selgin regarding Mises’s position on the resource costs of a gold standard. In summarizing Mises’s views, White (1992, p. 522) writes, “he viewed fractional-reserve banking as a natural and desirable development in a free society, most importantly because it reduced the resource costs associated with the payments system.” White (1992, p. 520) notes Adam Smith’s view, which Mises refers to in *The Theory of Money and Credit*, that replacing a metallic standard with paper substitutes an expensive medium of exchange with a less expensive one (Mises 1980, p. 332). But although Mises considered the classical view theoretically correct in 1924, his examination of the historical development of government intervention in money and banking led him to change his assessment of its importance in history by 1949.¹⁰ He wrote:

In examining the evolution which gave governments the power to manipulate their national currency systems, we must begin by mentioning one of the most serious shortcomings of the classical economists. Both Adam Smith and David Ricardo looked upon the costs involved in the preservation of a metallic currency as a waste. As they saw it, the substitution of paper money for metallic money would make it possible to employ capital and labor, required for the production of the quantity of gold and silver needed for monetary purposes, for the production of goods which could directly satisfy human wants. Starting from this assumption, Ricardo elaborated his famous *Proposals for an Economical and Secure*

⁹Contrary to White’s assertion, Mises is not agreeing in this passage with the free bankers’ position that in a growing economy an increase in fiduciary media is necessary to accommodate an increase in money demand. See White (1992, pp. 520-21, 523). Also, on this point see Selgin and White (1996, p. 98).

¹⁰Also on Mises’s view of the resource costs of a gold standard, see Salerno (1993, p. 144). Mises had revised his more favorable assessment on Adam Smith’s position, which he held in 1924, by the time he wrote his article “Monetary Stabilization and Cyclical Policy,” in 1928. See, Mises (1978, pp. 72-74).

Currency, first published in 1816. Ricardo's plan fell into oblivion. It was not until many decades after his death that several countries adopted its basic principles under the label *gold exchange standard* in order to reduce the alleged waste involved in the operation of the gold standard nowadays decried as "classical" or "orthodox." (Mises 1998, p. 780)¹¹

Also, it should be kept in mind that the reason Mises gave for the resource cost advantage of a paper money during deflation was derived from Hume's argument showing that any stock of money can perform the entire medium-of-exchange function; a smaller stock would do so with lower prices, and a larger stock with higher prices (Mises 1980, pp. 165 and 333). Despite the greater regard he once held for Adam Smith's view, Mises's position was always much different from that of the modern free bankers who do believe there is an optimum amount of money and who do believe there is a social benefit to increasing the money stock in response to an increase in money demand.¹²

Also by 1949, Mises came to recognize that the resource costs associated with a gold standard pale in significance compared to the destruction wrought by inflation. "If one looks at the catastrophic consequences of the great paper money inflations," Mises (1998, p. 419) wrote, "one must admit that the expensiveness of gold production is the minor evil."

But whatever the reality and extent of diversion of resources into gold mining during deflation, it is clear that by 1949 Mises did not consider deflation a likely problem. Inflation, once government has monopolized the production of money, is the real danger. As long as there is a significant inflationary impulse (always strengthened by government intervention into money and credit), the cost of producing gold is its main advantage as a money since this is what restrains the inflationary impulse.

GOLD AND THE STATE

Although governments did establish and rule over the classical gold standard, Mises did not think the market economy required such oversight. He recognized that the gold standard had come to transcend governments. International trade had created a worldwide division of labor based on gold, which "works without any action on the part of governments." Not only is there "no need for any government to interfere in order to make the gold standard work," Mises wrote, "no government is . . . powerful enough to abolish the gold standard." Because "gold is the money of international trade and of the super-national economic community of mankind," its preservation and

¹¹That he came to realize the implications of the Smith-Ricardo view only after 1924 helps to explain his remark that "in dealing with the problems of the gold exchange standard all economists—including the author of this book—failed to realize the fact that it places in the hands of governments the power to manipulate their nations' currency easily" (Mises 1998, p. 780).

¹²On the free bankers' position, see White (1992, p. 523).

purification were necessary components of Mises's plan for the restoration of a liberal social order (1998, pp. 472-73).

Mises's defense of the gold standard, then, was part and parcel of his indefatigable drive for a liberal society. Such a society is put into place by the strictest limits on the power of the state. "Government means always coercion and compulsion and is by necessity the opposite of liberty," Mises (1998, p. 283) wrote, "[it] is a guarantor of liberty and is compatible with liberty only if its range is adequately restricted to the preservation of economic freedom." In short, the liberal society is achieved when state coercion is limited to defense of person and property (Mises 1998, p. 720).

Mises argued that money, like all other goods, is part of the private property order of the market, and thus, outside the realm of state power, which was to be restricted to defense of person and property. He wrote:

Money is the commonly used medium of exchange. It is a market phenomenon. Its sphere is that of business transacted by individuals or groups of individuals within a society based on private ownership of the means of production and the division of labor. (Mises 1980, p. 478)

If the market would have been unhampered by government intervention into monetary affairs in the nineteenth century, the parallel standard, already developed in history, would have been maintained and no reform would be necessary. But governments did interfere and created the gold standard, which became the money of the world economy. Because the gold standard was the world's monetary system in 1949, Mises argued, reform projects must first seek to preserve it and second to purify it of its interventionist elements.¹³

THEORY AND HISTORY OF MONEY SUBSTITUTES

If in a liberal social system money proper is to be left to the choice of the market and private enterprise, what about the monetary function of banks? As with other issues of monetary systems, Mises argued that there are praxeological and historical dimensions regarding the monetary function of banking. The praxeological function banks have performed is in producing money substitutes, which "render to the individual all the services money can render" Mises (1998, p. 429) wrote and thus, "they can fully replace money in an individual's or a firm's cash holdings." To do this, a money substitute must be a claim to a definite amount of money that is redeemable on demand against the issuer, for whom no doubt exists about his ability and willingness to pay and

that all parties with whom he could possibly transact business are perfectly familiar with these essential qualities of the claims concerned. . . . The main thing is that *every owner* of a money-substitute, is perfectly certain that it can, at every instant and free of expense, be exchanged against money. (Mises 1998, pp. 429-30; emphasis added)

¹³This point is pursued below.

The legal claim that the money-substitute makes is part and parcel of the general legality of contract and must be upheld, and enforced if necessary, by the legal system. Contrary to Selgin (2000, p. 95), who asserts that the indefinite public knowledge that banks, in general, do not hold 100-percent reserves is sufficient to justify fiduciary media, according to Mises, to be a money-substitute all traders in the market must be fully informed of the legal character of the claim and the financial character of the institution that issues it. Then and only then will the banks have a clientele for their products and not merely customers; then and only then will the claims be money-substitutes, that is, be, like money itself, generally accepted as a medium of exchange. "People deal with money-substitutes as if they were money," Mises wrote, "because they are fully confident that it will be possible to exchange them at any time without delay and without cost against money." Only those who have this confidence, that is, deal with money-substitutes as if they were money, are clients of the issuer. The crucial factor determining confidence in a bank, or lack thereof, is the actual practice of redemption. "What counts," Mises wrote, "is whether the money-substitutes can really be exchanged against money without delay and cost" (Mises 1998, pp. 431-32).

Historically, banks have issued two types of money-substitutes: money-certificates, for which the bank "keeps against the whole amount of money-substitutes a reserve of money proper," and fiduciary media, which is "the amount of substitutes which exceeds the reserve" (Mises 1998, p. 430). Since the issue of either type of a money-substitute depends on clients who are "perfectly certain that it can, at every instant and free of expense," be redeemed for money, money-certificates are necessary for the existence of fiduciary media. Without a reserve held against some money substitutes, no fiduciary media could be issued at all. Fiduciary media, for Mises, are entirely dependent upon the existence of money certificates. The requirement for the legality and viability of money-substitute is the contractual obligation for the issuing bank to redeem the money-substitute for money at par on demand, and this requirement can only be met if the bank holds sufficient reserves of money. Mises wrote:

It is very easy for a bank to increase the number of people who are ready to accept loans granted by credit expansion and paid out in an amount of money-substitutes. But it is very difficult for any bank to enlarge its clientele, that is, the number of people who are ready to consider these claims as money-substitutes and to keep them as such in their cash-holdings. To enlarge this clientele is a troublesome and slow process, as is the acquisition of any kind of good will. On the other hand, a bank can lose its clientele very quickly. If it wants to preserve it, it must never permit any doubt about its ability and readiness to discharge all its liabilities in due compliance with the terms of the contract. A reserve must be kept large enough to redeem all banknotes which a holder may submit for redemption. Therefore no bank can content itself with issuing fiduciary media only; it must keep a reserve against the total amount of money-substitutes issued and thus combine issuing fiduciary media and money-certificates. (1998, p. 436)

For Mises, free banking meant that banks have a legal obligation to redeem all money-substitutes, whether money-certificates or fiduciary media, into money at par on demand and must in practice never reveal any doubt as to their readiness and ability to do so. Banks do not have an inviolable right to issue fiduciary media itself, but only money-substitutes. Selgin and White, in contrast, wish to “defend the freedoms to issue and use fiduciary media of exchange,” as a basic right of contract. “Outlawing voluntary contractual arrangements that permit fractional reserve-holding,” they write, “is thus an intervention into the market, a restriction on the freedom of contract which is an essential aspect of private property rights” (Selgin and White 1996, pp. 83, 87).

The danger in issuing fiduciary media is that it makes the bank’s legal obligation to redeem subject to the confidence that clients have in the bank. This fact, Mises thought, was an essential feature of issuing fiduciary media and granting circulating credit, the danger of which is ever present. The clients’ confidence in the bank cannot be apportioned according to whether one holds money-certificates or fiduciary media. “As a rule,” Mises (1998, p. 430) wrote, “it is not possible to ascertain whether a concrete specimen of money-substitute is a money-certificate or a fiduciary medium.” Yet, confidence in the bank is indissoluble, Mises thought: “it is either present with all its clients or it vanishes entirely.” For this reason, the purpose of holding reserves is not to redeem the banknotes of those who have lost confidence in the bank, but to hold a reserve large enough that the practice of redemption is never suspended and, thus, confidence is never lost. “A reserve must be kept large enough,” Mises wrote, “to redeem all banknotes which a holder may submit for redemption.” This all-or-nothing nature of the clientele’s confidence in the bank “is an essential feature or weakness of the business of issuing fiduciary media and granting circulation credit. . . . No system of reserve policy and no reserve requirements as enforced by the laws, can remedy it” (Mises 1998, p. 436).

Disregarding these passages, Selgin and White cite Mises in favor of their position that because the issue of fiduciary media is a basic right of contract, redemption is merely a technical question whose dangers can be efficiently managed. Bankers must, by entrepreneurial judgment, determine a redemption policy that makes fiduciary media sustainable as a medium of exchange, which they characterize as a risk-management problem. Bank runs, according to Selgin and White, could be dealt with pragmatically with, for example, option clauses for suspension of specie redemption. Mises, as implied above, would not permit such suspension under any circumstances. The law must enforce the redemption of all money-substitutes under any conditions. Moreover, in the citation of Mises they attempt to use to bolster their position, he is explaining how a claim on money as property can be a medium of exchange and have par value with money, without being backed by money while a claim on consumer goods as property must be fully backed by the goods to have par value with the goods. As noted above, Mises argued that the viability of fiduciary media depended on the confidence holders have in their redemption. In the passage cited by Selgin and White, he merely adds that such confidence depends on the prudence of bankers in issuing fiduciary

media. Mises is not claiming what Selgin and White do, that because the issue of fiduciary media is a basic right of contract, their viability is a manifestation of satisfying the demand people have for them, as it would be for consumer goods. As shown above, according to Mises, people only demand money-substitutes, not fiduciary media, and their demand exists only when they have confidence in full redemption based on the issuers practice of full redemption. People could not demand fiduciary media because they cannot distinguish between a money-substitute that is a money-certificate and one that is a fiduciary medium. If they could make such a distinction, then fiduciary media would not be viable (Selgin and White 1996, pp. 90-92).¹⁴

FIDUCIARY MEDIA AND CREDIT EXPANSION

Although clients of a bank cannot distinguish between its money-certificates and fiduciary media, the effects of issuing the two types of money-substitutes are different. The issue of money-certificates neither changes the money stock nor expands bank credit. “A bank which does not issue fiduciary media,” Mises wrote, “can only grant *commodity credit*, that is, it can only lend its own funds and the amount of money which its customers have entrusted to it.” But issuing fiduciary media permits credit expansion. A bank, Mises wrote, “can now not only grant commodity credit, but also *circulation credit*, that is, credit granted out of the issue of fiduciary media.” The result of an issue of fiduciary media is a reduction in money’s purchasing power and the rate of interest (Mises 1998, pp. 430-31; emphasis in original).

Fiduciary media, then, is the source of credit expansion and credit expansion is an integral part of the trade cycle. “The term *credit expansion* has often been misinterpreted,” Mises (p. 431, emphasis in original) wrote, “it is important to realize that commodity credit cannot be expanded. The only vehicle of credit expansion is circulation credit.”¹⁵ Mises wrote:

The notion of “normal” credit expansion is absurd. Issuance of additional fiduciary media, no matter what its quantity may be, always sets in motion those changes in the price structure the description of which is the task of the theory of the trade cycle. Of course, if the additional amount issued is not large, neither are the inevitable effects of the expansion. (1998 p. 439, n. 17)

In contrast to Mises, Selgin argues that the additional issue of fiduciary media, and the consequent credit expansion, does not engender the trade

¹⁴The passage they cite is Mises (1980, pp. 299-300).

¹⁵Mises held that the major drawback of issuing fiduciary media was the resulting business cycle and, once his views were fully developed, he held that this drawback alone was sufficient to outweigh any advantages fiduciary media may have. See, Salerno (1993, pp. 139-41). Basing their position on Mises’s underdeveloped view, Selgin and White (1996, p. 94) claim that Mises found the benefit of the saving of resource costs greater than the harm of cyclical instability.

cycle if the additional fiduciary media is accommodating an increase in money demand. Selgin writes:

Anyone who finds even a grain of truth in the Austrian theory of the business cycle appreciates that excessive growth of the money stock can trigger or worsen industrial fluctuations. It does not follow, however, that fractional reserves are to blame for such fluctuations, or that an economy relying on one hundred percent reserve banks only would necessarily be cycle-free.

In truth, whether an addition to the money stock will aggravate the business cycle depends entirely on whether or not the addition is warranted by a preexisting increase in the public's demand for money balances. . . . As far as business-cycle consequences are concerned, it makes no difference whether the new money is or is not backed by gold. (2000, p. 97)¹⁶

In Mises's view, any additional fiduciary media sets in motion the trade cycle. The only circumstances under which issuing fiduciary credit would not lead to credit expansion is if the new issue is replacing a retiring issue of fiduciary credit and thus no additional fiduciary media comes into existence. "Credit expansion is present only if credit is granted by the issue of an additional amount of fiduciary media," Mises (1998, p. 431) wrote, "not if banks lend anew fiduciary media paid back to them by the old debtors."

THEORY AND HISTORY OF FIDUCIARY MEDIA

Mises's earlier writings about fiduciary media must also be read in the context of the historical period that Mises is trying to explain. Thus, as with the claim by Selgin and White that Mises lends support to banks issuing fiduciary media today because he argued that such media once played an important role in preventing deflation, the claim by White (1992, p. 522) that Mises's assertion that the historical development of banking was aided by the issuing of fiduciary media lends no support to continuation of this practice. Mises wrote:

In the early days of the modern banking system [fiduciary media] played a further part still by strengthening the credit-negotiating activities of the banks (which in those times could hardly have proved profitable if carried on for their own sake alone) and so brought the system safely past those obstacles which obstructed its beginnings. (1980, p. 359)

But now that the banking system is fully developed, this benefit no longer accrues to the continuing existence or further issuing of fiduciary media. Even Mises's claim in 1924 must be understood as a historical one. He wrote:

Prohibition of the issue of all notes except those with a full backing and of the lending of the deposits which serve as the basis of the check-and-clearing

¹⁶See also Selgin and White (1996, pp. 102-03).

business would mean almost completely suppressing the note issue and almost strangling the check-and-clearing system. (Mises 1980, pp. 359-60)

But following this quotation that White cites, Mises wrote:

If notes are still to be issued and accounts opened in spite of such a prohibition, then somebody must be found who is prepared to bear uncompensated the costs involved. Only very rarely will this be the issuer, although occasionally such a thing happens. (1980, p. 360)

So in any historical context where it is possible for the issuer to be compensated for fully backed money-substitutes, which Mises thought even before 1924 occasionally happened, this benefit of fiduciary credit disappears. He wrote:

Issuing money-certificates is an expensive venture. . . . a ruinous business if not connected with issuing fiduciary media. In the early history of banking there were banks whose only operation consisted in issuing money-certificates. But these banks were indemnified by their clients for the costs incurred. (1998, p. 432)

This was possible because of people's preference for different forms of cash holdings. If people consider banknotes more convenient than coins, they "would be prepared to pay a premium," for them. Mises cites both "banknotes issued by banks of unquestionable solvency" and travelers' checks as examples of the public's greater demand for certain forms of media of exchange resulting in a premium high enough to cover the costs of their production (Mises 1998, p. 443).

Mises not only thought it possible for banks in a developed market system to be able to cover the costs of issuing only money-certificates, he claimed that the historical importance of fiduciary media was a result of government intervention. Mises did not think that fractional reserve banking was a "natural and desirable development in a free society," as White (1992, p. 522) claims for him. To the contrary, Mises thought that if banking had been unhampered by government intervention, fiduciary media would have never been an important factor in banks issuing money-substitutes. He wrote:

The issue [of the public acceptance of banknotes] can still better be clarified by reviewing banking conditions in continental Europe. Here the commercial banks were free from any limitation concerning the amount of deposits subject to check. They would have been in a position to grant circulation credit and thus expand credit by adopting the methods applied by the banks of the Anglo-Saxon countries. However, the public was not ready to treat such bank deposits as money-substitutes. . . . Only a small group of big business treated deposits with the country's Central Bank of Issue (not those with the commercial banks) as money-substitutes. Although the Central Banks in most of these countries were not submitted to any legal restrictions with regard to their deposit business, they were prevented from using it as a vehicle of large-scale credit expansion because the clientele for deposit currency was too small. Banknotes were practically the sole

instrument of circulation credit and credit expansion. Similar conditions prevailed and for the most part still prevail by and large in all countries of the world which are outside the pale of Anglo-Saxon banking methods. (Mises 1998, p. 442)

Not only did Mises claim that lack of public demand for deposits limited their use, whether money-certificates or fiduciary media, to a small cadre of traders, he also held that the widespread use of banknotes was unnecessary to the development of the market economy. "Banknotes are not indispensable," he wrote, "all the economic achievements of capitalism would have been accomplished if they had never existed" (Mises 1998, p. 444).

Moreover, the rise of banknotes was not the result of public demand, but government intervention.¹⁷ "However, freedom in the issuance of banknotes," Mises (1998, p. 443) wrote, "would have narrowed down the use of banknotes considerably if it had not entirely suppressed it." It was not the market, but government, that gave rise to the widespread use of banknotes. Mises wrote:

But this present state of banking is not the outcome of the operation of the unhampered market economy. It is a product of the various governments' attempts to bring about the conditions required for large-scale credit expansion. If the governments had never interfered, the use of banknotes and of deposit currency would be limited to those strata of the population who know very well how to distinguish between solvent and insolvent banks. No large-scale credit expansion would have been possible. (1998, p. 444)

Governments, according to Mises, were not aiming at developing the banking system or the market economy, but had only the goal of easing the burden of their own financing in mind when helping banknotes develop. "Governments did not foster the use of banknotes in order to avoid inconvenience to ladies shopping," Mises (1998, pp. 443-44) wrote, "their idea was to lower the rate of interest and to open a source of cheap credit to their treasuries."

In Mises's view, banknotes played a significant, and pernicious, role in history because governments interfered to bring about their widespread use and deposit currencies, even as late as 1949, played no significant widespread role in history because people did not desire them. Although White (1992, p. 526) agrees that Mises is claiming that money-substitutes would not have played a significant role in history absent government intervention, he fails to realize that without their widespread issue, free banks could not play the role of expanding the money stock to accommodate increases in money demand.

Today it can hardly be disputed that charges for checking accounts are commonplace and would not stifle the issue of money-certificates as the only form of money-substitutes. But even if banks could not profit from issuing money-substitutes, Mises would consider it a good thing, since it would restrict banknotes to a small fraction of commerce and thus discourage the development of fiduciary banknotes and "large-scale" credit expansion. In any case, whatever one's view of these historical issues, Mises clearly thought that

¹⁷Also, on this point, see Salerno (1993, p. 142).

the form of money substitute was not an issue that could be settled by catallactics. “At any rate, catallactics is not interested in the purely technical problems of banks not issuing fiduciary media,” Mises (1998, p. 432) wrote, “the only interest that catallactics takes in money-certificates is the connection between issuing them and the issuing of fiduciary media.”

This distinction between money-certificates and fiduciary media is important because issuing the latter results in credit expansion, the very force Mises was interested in curbing. “Hence the question of whether there are or are not limits to the increase in the quantity of fiduciary media,” Mises (1998, p. 432) wrote, “has fundamental importance.” This is why Mises (1998, pp. 432–36) took time to dwell on the consequences of different configurations of free banking. Three features of his analysis stand out vis-à-vis the modern Free Banking School. First, all of these configurations presume gold as money and differ only in the conditions under which banks issue money-substitutes. Modern advocates of free banking do not agree that free banking is a market monetary system only if it has gold as money (Rothbard 1992, p. 99).¹⁸ Second, unlike the modern free bankers, Mises did not think that outlawing the issue of fiduciary media violated a basic right of contract. Instead, fractional reserve banking was one possible configuration of legally permissible bank activity, and not the one that attained his goal of restricting credit expansion as far as possible. Third, Mises demonstrated that free banking, with the legal right to issue fiduciary media, is a superior alternative to an interventionist system of government privilege, which permitted the suspension of specie redemption. By superior, he meant that this system would restrict credit expansion more than a system with one monopoly bank or a bank cartel (Mises 1998, pp. 433–34).

But, this configuration of free banking was not the one that most fully attained the goal Mises set for the ideal monetary system. The configuration that removed government most fully from monetary affairs and, thereby, restricted monetary inflation and credit expansion to the greatest degree begins with “the idea implied in the Currency Theory,” Mises (1998, p. 439) wrote, “that all banks be forced by law to keep against the total amount of money-substitutes . . . a 100 per cent money reserve”¹⁹ and then grounds money in gold and free banking in contract law. Mises wrote:

¹⁸Selgin (2000, p. 93) agrees that money proper should be gold. White (1985, pp. 124–26), on the other hand, is ambiguous on this point.

¹⁹Mises also points out that the Peel Act of 1844 was defective because it did not go far enough in restraining inflationary forces:

On the one hand, the system of government interference with banking was preserved. On the other hand, limits were placed only on the issuance of banknotes not covered by specie. The fiduciary media were suppressed only in the shape of banknotes. They could thrive as deposit currency. (Mises 1998, p. 439)

Also, on Mises’s view of the Currency School, see Salerno (1993, pp. 141–42). White (1992, p. 524) has a different assessment of Mises’s views on the Currency School.

But even if the 100 per cent reserve plan were to be adopted on the basis of the unadulterated gold standard, it would not entirely remove the drawbacks inherent in every kind of government interference with banking. What is needed to prevent any further credit expansion is to place the banking business under the general rules of commercial and civil laws compelling every individual and firm to fulfill all obligations in full compliance with the terms of the contract. (1998, p. 440)

Free banking is one component of this monetary system. But the best system of free banking, Mises argued, is the one that has a prohibition on the issue of additional fiduciary media and thereby restricts additional money-substitutes to money-certificates. Mises conceded that while free banking with fractional reserves does permit credit expansion, and thus does not fully attain his goal, it would have been better historically than the system of government intervention which gave special legal privileges to banks, for example, suspension of specie redemption. Mises wrote:

Free banking is the only method available for the prevention of the dangers inherent in credit expansion. It would, it is true, not hinder a slow credit expansion, kept within very narrow limits, on the part of cautious banks which provide the public with all information required about their financial status. But under free banking it would have been impossible for credit expansion with all its inevitable consequences to have developed into a regular—one is tempted to say normal—feature of the economic system. Only free banking would have rendered the market economy secure against crises and depressions. (1998, p. 440)²⁰

But however history may have played out in the absence of government privileges given to banks, this possibility was no longer present in 1949. The market economy had experienced crises and depressions, and Mises proposed the monetary reform that restricted credit expansion most severely. He feared that any halfway measures, in any of the three features of the most-restrictive monetary system, would still leave room for government to regain its control and resume its inflationary ways. He wrote:

If banks are preserved as privileged establishments subject to special legislative provisions, the tool remains that governments can use for fiscal purposes. Then every restriction imposed upon the issuance of fiduciary media depends upon the government's and the parliament's good intentions. They may limit the issuance for periods which are called normal. The restriction will be withdrawn whenever a government deems that an emergency justifies resorting to extraordinary measures. If an administration and the party backing it want to increase expenditure without jeopardizing their popularity through the imposition of higher taxes, they will always be ready to call their impasse an emergency. Recourse to the printing press and to the obsequiousness of bank managers, willing to oblige

²⁰In contrast, Selgin and White (1996, p. 103) claim that in this passage Mises is making a theoretical claim about this type of free banking.

the authorities regulating their conduct of affairs, is the foremost means of governments eager to spend money for purposes for which the taxpayers are not ready to pay higher taxes. (Mises 1998, p. 440)

MONETARY REFORM:
THE GOLD STANDARD AND 100-PERCENT-RESERVE BANKING

Mises's concern with the changing historical conditions pushing ever harder for credit expansion was only one factor that led him to eventually adopt the view that banks should be prevented from issuing any new fiduciary media; thereby, cutting off the fuel for the boom-bust cycle. Salerno (1993, p. 139) has pointed out "significant developments in Mises's theory of money...occurred between the publication of the first German edition of *The Theory of Money and Credit* in 1912 and the publication of *Nationalökonomie* (the German language forerunner of *Human Action*) in 1940." As Salerno (1993, pp. 139 and 143) notes, Mises himself acknowledged that his monetary theory achieved completion only with the publication of his *magnum opus*, and that when his thought on "entrepreneurship, monetary calculation, and money" developed fully, Mises downgraded his former assessment of the benefits of issuing fiduciary media, especially the harm of increases in money's purchasing power, and upgraded his assessments of its drawbacks, especially credit expansion.

Mises advanced his proposal for a monetary system with zero credit expansion, that is, a gold standard with no issue of fiduciary media, as part of his program for monetary reform as early as 1944, and he repeated it in his 1952 essay on monetary reconstruction.²¹ He wrote:

The main thing is that the government should no longer be in a position to increase the quantity of money in circulation and the amount of check-book money not fully—that is, 100 percent—covered by deposits paid in by the public. No backdoor must be left open where inflation can slip in. (Mises 1980, p. 481)

When applied to the United States, monetary reform must include restoration of the public's right to redeem the dollar for gold. "To enable the Conversion Agency to [buy gold against dollars at the legal parity]," Mises (1980, p. 492) wrote, "it is to be entitled to issue dollar bills against a 100-percent reserve in gold." Banks can only issue checkable deposits that are 100-percent backed and, therefore, can issue no additional fiduciary media. "This means a rigid 100-percent reserve for all future deposits," Mises (1980, p. 491) wrote. Barred from issuing additional fiduciary media, banks could play no role in generating a boom-bust cycle, even if they had existing fiduciary media outstanding. With the government impetus for inflation removed from the

²¹The 1944 essay is included in a volume of Mises's previously unpublished manuscripts (Ebeling, ed., 2000). The 1952 essay was made an addendum to the 1953 edition of *The Theory of Money and Credit*.

monetary system and 100 percent reserve banking, inflation, the main enemy in monetary affairs, is at last restricted as much as possible.

As noted above, Mises thought that if left to the free choice of the market, a parallel standard would emerge. But government intervention had given the world the gold standard, which in turn became the money of the world economy transcending the governments that created it. Given the historical reality of the gold standard, Mises (1998, p. 445) argued that monetary reform could not immediately throw the choice of money open to the market again, but must establish the ideal monetary system, that is, the one that permits no credit expansion, by reforming the existing monetary system.²²

The reform measure of restoring dollar redemption for gold reestablished the actual historical metallic standard and thereby cut off the inflationary impulse acting on the stock of money. The 100-percent-reserve requirement cut off the inflationary impulse acting on money substitutes. The reason Mises (1998, p. 431) wanted to restrict only additional fiduciary media and not eliminate them all was the possibility of an artificial, and thus harmful, deflation from immediate retirement of all existing fiduciary media and his view that existing fiduciary media have already had their effects on the market economy and thus could not be a source of further credit expansion.²³

It was the historical experience of the booms and busts and the propaganda that they were part and parcel of the market economy that did the most to discredit capitalism. Mises wrote:

Looking backward upon the history of the last hundred years, one cannot help realizing that the blunders committed by liberalism in handling the problems of banking were a deadly blow to the market economy. . . . Nothing harmed the cause of liberalism more than the almost regular return of feverish booms and of the dramatic breakdown of bull markets followed by lingering slumps. Public opinion has become convinced that such happenings are inevitable in the unhampered market economy. People did not conceive that what they lamented was the necessary outcome of policies directed toward a lowering of the rate of interest by means of credit expansion. They stubbornly kept to these policies and tried in vain to fight their undesired consequences by more and more government interference. (1998, pp. 440-41)

It was of the utmost importance, for Mises, to set the record straight on this point and to inoculate the market economy from the boom-bust cycle by purging money and banking of their interventionist elements. In making his

²²On Mises's ideal monetary system being one without credit expansion, see Salerno (1993, pp. 139-42).

²³Although both Selgin and White are eager to put distance between Mises's views on money and banking and those of Murray Rothbard, Mises's monetary reform has many affinities with that advocated by Rothbard. See Selgin (1999, p. 259) and White (1992, pp. 517-18). See Rothbard (1990, 1991, 1994) on a free market monetary system and monetary reform.

case for the gold standard and 100-percent-reserve banking, Mises was making his case for the market economy and, in so doing, striving to rescue Western civilization from its slide into socialism.

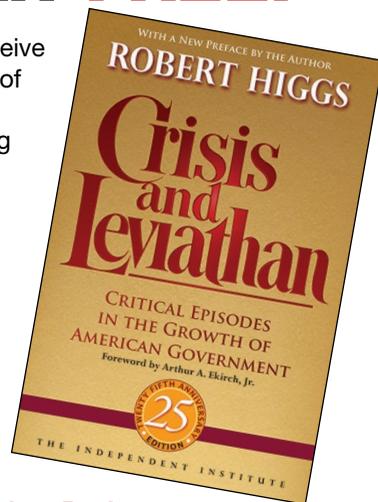
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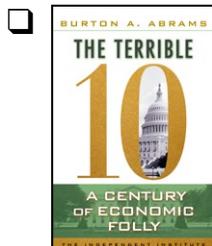
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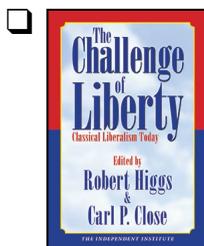
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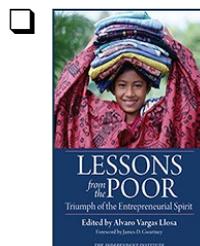
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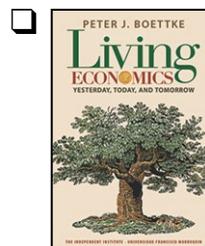
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Accounting for Fractional-Reserve Banknotes and Deposits— or, What’s Twenty Quid to the Bloody Midland Bank?

— ◆ —

LAWRENCE H. WHITE

For centuries—even before government guarantees came on the scene—Western payment systems predominantly have used banknotes and demand deposits backed by fractional rather than 100 percent reserves. Explaining the long historical prevalence of fractional-reserve instruments poses a difficult challenge to those who believe that such products necessarily or usually represent a fraud.¹ A business practice is fraudulent, of course, only if someone is duped. The challenge then is to explain how the public was duped continually for centuries. How on earth did the bankers keep the word from getting out? The challenge is especially great when we notice that *if* an informed public really had wanted to patronize money

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1. The fraud position in the recent literature stems from Rothbard 1962, 1983, and 1990. Rothbard’s followers on the question include Block 1988; Hoppe 1994; Huerta de Soto 1995, 1998; Hülsmann 1996, 2000, and the article in this issue; and Hoppe, Hülsmann, and Block 1998. Rothbard held that the fractional-reserve banker defrauds his customer; a recent variant holds that the banker and his customer conspire to defraud third parties.

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warehouses, then money-warehousing entrepreneurs would have profited by getting the word out. As George Selgin and I wrote in 1996,

competition will beat down the returns to capital invested in fractional-reserve banking until the marginal bank is earning only the normal rate of return. In this situation, were it really true that most depositors are willing to forego the interest they are receiving (and instead pay storage fees) in order to have the security of a 100-percent-reserve bank—but simply don't realize that their banks aren't holding 100 percent reserves—then any banker (who *does* know what the banks are up to, after all), possessing even an ounce of entrepreneurial insight, would see an easy way to grasp pure profit. All the banker has to do is to offer credible 100-percent-reserve accounts, while alerting the public to the other bankers' practices, and depositors will come flocking in. (97–98)

In his article “Has Fractional-Reserve Banking Really Passed the Market Test?” in this issue of *The Independent Review*, Jörg Guido Hülsmann tries to meet this challenge. In his view, fractional-reserve banking has not really “passed the market test.” He offers an imaginative story about how the bankers managed to keep the public duped for centuries: they “relied on obscurity of language, which the bankers have promoted intentionally and fraudulently,” and they acted as a “cartel” in accepting and redeeming one another's notes and checks. Their customers, when trying to pay with fractional-reserve banknotes and checks, became virtual co-conspirators in hiding the differences. Money warehouseers could not profit by exposing the differences because bank lawyers persuaded the courts to render decisions that effectively banned the business of money warehousing. Thus, fractional-reserve banking prevailed over warehouse banking not because of the workings of a substantially free market, but because of government intervention in the market and the abridgement of freedom of contract.

This story, fortunately or unfortunately, is a fictional tale that does not fit the details or the broad patterns of banking history. Some ambiguities were unavoidable when deposit banking was a new business, but the distinctions needed for clear deposit contracts were established early on. The banknotes and demand deposits popular historically were in fact clearly distinct from warehouse certificates. Warehouse certificates were not a viable type of circulating currency note; in fact, *warehouse certificates are inherently unsuited to circulate and are not known ever to have circulated historically*. Banks that agreed to accept one another's liabilities at par were not acting as a “cartel” or conspiring against their customers. They did not adopt the more cartel-like policies (holding one another's notes as reserves) that Hülsmann imagines. Court decisions that affirmed fractional-reserve banking contracts did not ban money-warehousing contracts.

Fractional-reserve banking did not need fraud or coercion to prevail over warehouse banking. It prevailed by offering customers a better deal. Fractional-reserve banking really has passed the market test. Government interventions were later responsible for central banks and for taxpayer-backed deposit guarantees (on these

issues there is no quarrel between Hülsmann and the “free bankers”), but they were not responsible for the historical prevalence of fractional-reserve banking.

Fiduciary Media Were Differentiated from Money-Warehouse Certificates

Hülsmann appears at first to be open to the possibility of nonfraudulent fractional-reserve banking, indicating that it might legitimately play some role in the market economy if fractional-reserve banknotes were clearly differentiated from money warehouse certificates. By Hülsmann’s criteria, however, clearly differentiating fractional-reserve banknotes amounts to ruling out of bounds the kind of banknote contract that actually has been popular historically and admitting only an odd kind of fractional-reserve contract. His belief that widely used historical banknotes were not in fact clearly differentiated from “100 percent money certificates” seems to rest ultimately on his a priori conviction that the banknotes *would not and could not* have been popular if people had realized what they were getting.

Hülsmann begins by describing two “inherently different” ideal-type banking products: “money titles and fractional-reserve IOUs.” Although he allows that “most financial instruments have, of course, an intermediate-type nature,” he does not allow that demandable debt—the common contractual form historically taken by demand deposits and banknotes—is a blend of the two types. Thus, the spectrum between his two ideal types excludes major real-world banking products.

In the first ideal type, the bank “issues standardized *money titles*, such as banknotes, to the depositing customers, who can then use these banknotes in their daily transactions in lieu of money proper.” At the same time, the bank “acts here as a warehouse for money, and therefore its money titles are covered 100 percent.” In this case, “the depositor retains an exclusive legal claim to the money at any point in time, even though the money is physically stored in the warehouse.”

Although this arrangement sounds straightforward, closer examination reveals that it would not be feasible for a money warehouse to provide attractive “banknotes” or a product “such as banknotes.” It is easy to see how a warehouse bank would provide checkable deposits. To cover its operating costs, the warehouse bank easily can deduct (at low transaction cost) monthly storage fees from the deposit balances on its books and debit-per-transaction fees against the deposit accounts to or from which it transfers payments. But how can a warehouse bank assess fees for storing the 100 percent reserves it holds behind a payable-to-bearer note that circulates as an ordinary banknote does—that is, that changes hands without the issuer’s knowledge? Because the bank would not know who the current holder of the note is, it could not deduct periodic storage fees from the holder’s account balance. (The current holder need not even have an account at the bank.) Without collecting storage fees, the warehouse bank would incur losses on its notes. Thus, Ludwig von Mises’s dictum that “Issuing money-certificates is a ruinous business if not connected with issuing of fiduciary media” (1966, 435) applies most forcefully to circulating notes.

One conceivable way to charge storage fees to the holder of a payable-to-bearer warehouse note is to have the note depreciate in the holder's hands at a scheduled rate (the schedule might be printed on the back of the note), entitling the bearer to slightly less money in the vault each week. Such a depreciating note would be an unattractive product, however, in comparison to a currency that remains at par, either "money proper" or a fractionally backed note (whose issuer holds interest-earning assets and thereby can defray costs without collecting fees from note holders).² Such a depreciating warehouse note would saddle the holder both with a negative return *and* with the computational cost of dealing with a nonpar medium of exchange.

We can imagine other ways to collect storage fees that would avoid nonpar valuation, but they would make holding and spending a warehouse note less attractive than using an ordinary bearer banknote (or basic money) in other ways. (1) A warehouse note can be signed over and dated on each transfer, and storage fees can be assessed retroactively on each signer when the note is returned to the warehouse for redemption. Under that plan, transfer would be cumbersome, and it would have to be limited to customers of clearinghouse-member banks who agreed to pay the fees and who provided clear identification (sacrificing the anonymity usually associated with using currency). Collecting the tiny fees due from each signer probably would not compensate the bank for the labor of entering the names and dates from the back of the note. (2) An occasional "negative lottery" can be held, canceling the redeemability of (say) 0.5 percent of the notes in circulation (if the competitive storage fee is 0.5 percent per period). This plan, however, eliminates the warehouse note's potential appeal to risk-averse individuals. Either of these techniques renders the warehouse note less attractive to hold and use than a fractional-reserve note that is considered safe.

Judging by historical evidence from free banking systems of the past and by the fees charged by gold warehousing services today, the default risk involved in holding a fractional-reserve note or deposit issued by a reputable bank (a member of the clearinghouse) is less than a money warehouse's likely storage fee. Storage fees are 1 percent per annum on gold warehouse accounts currently offered by e-gold Ltd. or Crowne Gold. Annual losses to note holders and depositors were a small fraction of 1 percent in nineteenth-century Scotland, Canada, and Sweden (to name three systems that have been studied relatively well). Faced with such percentages, the potential clientele for warehouse banking will be limited to *highly* risk-averse individuals. Fractional-reserve notes will prevail in competition with warehouse notes.

My hypothesis—that any device for collecting storage fees would make warehouse notes too cumbersome for customers to "use these banknotes in their daily transactions in lieu of money proper," as Hülsmann puts it—is perfectly refutable.

2. Fractional-reserve banks might even afford to pay interest on their notes *if* there were a cheap enough way to deliver it. In White 1987, I argue that historically there was no sufficiently cheap way to deliver interest, against the hypothesis that free competition among fractional-reserve banks implies interest-bearing notes (where banks pay interest on their other liabilities). Collecting the mere pennies worth of interest accruing on a twenty-dollar note by having the note appreciate over time would not be worth the computational bother imposed on the note holder in dealing with a nonpar note.

One need find only one or more historical examples of warehouse notes actually being used as circulating currency and spell out how in practice the storage costs were defrayed. The preceding analysis leads me to suspect that there are no historical examples to find, but I may be wrong.

The obvious need to defray storage costs *somehow* on a circulating warehouse note (or “genuine money certificate”) cuts the ground out from under the notion that people commonly have been unable to discern the character of the notes they have been offered in the marketplace. A circulating note without any system for defraying storage fees is *obviously* and *can be only* a fractional-reserve note.

In Hülsmann’s second ideal-type contract, a term deposit, “people invest their money in the bank for a certain length of time—for example, by granting a credit to the bank or by buying its bonds.” In this case, “the bank obtains a temporary exclusive legal claim to the money during the time of the credit, and only after this time does the creditor regain his exclusive legal claim to the money.” Of course, as Hülsmann recognizes, the depositor’s claim is typically only to an *equivalent sum* of money, not to the specific coins he deposited. Units of money are fungible (interchangeable), so the depositor normally does not care about (and agrees to a deposit contract that does not provide for) getting the very same coins back.

The fungibility of money units is more than a small detail because it dissolves the presumed necessity for the creditor to have “exclusive claim” to a sum of money on the date the deposit contract matures, and it makes fractional-reserve demand deposits feasible. Hülsmann assumes that the deposit contract authorizes the bank to use the deposited money (gives it “temporary exclusive legal claim to the money”) only until a definite date at which the contract expires and requires the bank to have that sum of money back in the vault. Yet the bank may know from experience that almost certainly some portion of its customers will roll over their deposits that are maturing today, and it may make a contract with its customers that allows it to use that knowledge to their mutual advantage. That is, the contract need not call for the bank to have every penny demandable in the vault today. Although the customer does take a risk by allowing the bank to hold a fractional reserve (in other words, to invest for longer terms than the terms of its liabilities), he may choose to do so in light of the associated higher return on his deposit. The bank can pay a higher return because it can make longer-term loans at higher rates (the “yield curve” is normally upward sloping) or acquire securities that it need not liquidate.

A term deposit requiring 100 percent reserves at maturity is thus not the only possible type of contract allowing the bank to lend out deposited funds. Another possibility is a term deposit contract *not* requiring 100 percent reserves at maturity. At the depositor’s option, the contract can call for the deposit to roll over automatically until the depositor terminates the arrangement. As the term to maturity goes to zero, such a contract becomes a *demandable debt* that gives the customer the legal right to reclaim (and transfer, if it is a checking account) any part of the deposited sum on any date, but that also allows the bank to continue using the sum until the date the depos-

itor actually reclaims it. According to Pascal Salin’s description of such a contract, “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),” or a contractual claim, “which, according to the bank promise, is redeemable at any time,” typically in whole or in part, “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”—demandable bank debt, a banknote, or a demand deposit (2001, 4). The depositor has acquired an IOU with an on-demand redemption option.

Hülsmann declares that “A business either engages in money warehousing and sells money titles or engages in credit banking and sells IOUs. No third possibility exists.” This statement would be unobjectionable if his two categories together exhausted all the possibilities. His view of “credit banking,” however, does not encompass demand deposits. He conceives only of contracts that, as noted previously, require the bank to have in the vault today every penny that *might* be demanded today. Under such a requirement, a demand deposit *must continually* have 100 percent reserves; it cannot be a fractional-reserve IOU.

A fractional-reserve demand-deposit or banknote contract does *not* create a situation in which “both the banker and his customer have valid legal claims to the same sum of money at the same time,” as Hülsmann puts it. The customer who holds a banknote or a demand deposit has a debt claim payable on demand. *When* he presents a valid banknote or check or withdrawal slip to the bank’s cashier, the sum demanded belongs to the presenter, and the bank must pay him that sum in cash. *Until then*, the cash belongs to the bank. As Salin has stated, customers with banknotes or demand deposits “know that they only have a conditional title” (2001, 21); that is, their exclusive title to a sum of cash is not in force until they meet the condition of actually demanding redemption.

Hülsmann comes close to granting this point when he writes:

All present-day fractional-reserve banks do not specify a fixed maturity of their IOUs. This condition per se does not make fractional-reserve banking illegitimate; in fact, the contract between the banker and his customer might provide for contingent rules that determine maturity. One example is option clauses: here the banker can refuse to redeem the IOU only by invoking the agreed-on option clause; accordingly he then would have to fulfil his obligation at the latest after the time stipulated in the clause.

Only one further small step remains to be taken to acknowledge the legitimacy of fractional-reserve banknotes—namely, the step of recognizing that even a banknote *without* an option clause provides an agreed-on “contingent rule” for maturity. A note that says “will pay the bearer on demand” is fully mature (that is, the bank is obliged to fulfill its obligation) when (and not before) the bearer actually demands to be paid.

Hülsmann recognizes that a banker, in order to increase the attractiveness of his fractional-reserve (term) deposits or promissory notes, might want to “promise their

owners that the IOUs can be redeemed in cash on demand.” For some reason, he does not recognize that the bank might make a *legally binding* commitment to redemption of its liabilities on demand (while retaining discretion over the use of its assets, including the level of its cash reserves). According to Hülsmann, the banker only “gives his promise to ‘try his best’ to redeem the IOU on demand” but does not enter into a contract that makes him legally actionable if he does not pay on demand. Why not? Hülsmann explains: “The very fact that some of the money represented by the IOU is lent to other customers prevents him from guaranteeing redemption—at least from guaranteeing it *in the same sense* in which it can be guaranteed for money titles” (emphasis in original).

“Guaranteeing redemption” is a somewhat ambiguous phrase here. It is true that redemption is a somewhat riskier prospect for the customer of a fractional-reserve bank, even if the risk with a reputable bank is practically negligible. But “the very fact” of holding fractional reserves against demand liabilities does not itself prevent the banker from “guaranteeing redemption” in the sense of *legally binding himself* to redeem. Rather than the mere “IOUs plus redemption promise (IOUs + RP)” that Hülsmann imagines, banks historically have offered IOUs plus redemption-on-demand contracts (IOUs + RODCs). That is, banknotes did not read “Bank X will do its best to pay the bearer on demand,” but simply, “Bank X will pay the bearer on demand.”

We should expect IOUs + RODCs typically to be more liquid than warehouse titles. I already have explained why, in the case of circulating currency, reputable fractional-reserve banknotes are more liquid than warehouse notes would be—namely, because warehouse notes would be encumbered by the need to impose money-storage charges on their holders. Warehouse bankers more handily can charge storage fees on deposit account balances, but checking customers who prefer accounts without such fees (and even paying interest) would choose not to keep their checkable deposit balances in warehouse form. If such depositors are the majority (as is to be expected in an unhampered banking system where depositor losses from fractional-reserve bank default are well below the level of warehouse storage fees), then the popularity of warehouse deposits would be limited.

A firm basis is thus lacking for Hülsmann’s prediction that under *laissez-faire* “we can be fairly certain that virtually all monetary exchanges would be made in cash or genuine money titles only.” This outcome is not what we observe in the historical banking systems closest to *laissez-faire*. Or consider the contrast today between money orders or cashier’s checks (both of which are more secure for the recipient) and ordinary checks (which pose a risk of bouncing). Using a money order allows one to buy from a slightly larger set of sellers than using an ordinary check, but money orders are far more expensive to use and hence are rarely used. They are reserved for the relatively rare cases (such as one-shot mail-order transactions) in which the prudent seller will not accept an ordinary check. The volume of checks dwarfs the volume of money orders. (Note that deposit insurance is not part of the reason because it does not indemnify the recipient of a bad check.)

Hülsmann imagines that under *laissez-faire* “*all* genuine money titles are valued at one equal rate with money proper (that is, all would be valued at par), whereas the various fractional-reserve IOUs + RP would be evaluated at different rates (all of which would be below par because of the higher default risk)” (emphasis in original). Against such a priori speculation about how the market would price imaginary products, we can refer to historical evidence on how markets in fact have priced banknotes (IOUs + RODCs). In the developed banking systems closest to *laissez-faire*, such as Scotland’s (White 1995), banknotes in fact were not evaluated at different rates, nor were all evaluated below par. The notes of reputable clearinghouse member banks in fact circulated at par, at least as widely as the banks were branched. The default risk was considered negligible (and in fact was negligible). Money warehouse notes, as far as I know, are nowhere to be found in the historical record. Hülsmann’s claim that “in a free market with proper product differentiation, fractional-reserve banking would play virtually no monetary role whatever” is thus historically false (unless we are to construe the terms *free market* or *proper product differentiation* so as to render the claim unfalsifiable).

As Hülsmann points out, Henri Cernuschi declared in 1866: “I believe that what is called freedom of banking would result in a total suppression of banknotes in France. I want to give everybody the right to issue banknotes so that nobody should take any banknotes any longer” (Cernuschi 1866, 55, qtd. in Mises 1966, 446). Cernuschi was perhaps speaking hyperbolically. If not, he simply was overlooking the historical record of Scotland, Canada, Sweden, Switzerland, New England, and other cases in which the freedom to issue notes resulted in trustworthy banking and the widespread circulation of notes, nearly to the exclusion of coin;³ or, for some reason, he thought that free banking would produce anomalous results in France. Two pages after quoting Cernuschi, Mises wrote: “If the governments had never interfered, the use of banknotes and of deposit currency would be limited to those strata of the population who know very well how to distinguish between solvent and insolvent banks” (1966, 448). As banking developed in Scotland and in other capitalistic countries with relatively free banking systems, the strata of the population who trusted reputable banknotes grew to become the majority.

Hülsmann detects “confusion between money titles and fractional-reserve IOUs” in Selgin’s writings and in my own: “As far as the present-day United State is concerned, I am inclined to believe that the confusion is a matter of fact, the best proof being certain American advocates of fractional-reserve banking themselves, who maintain that only gradations of difference exist between money, money titles, and fractional-reserve IOUs (Selgin 1988, 1996; White 1984, 1989, 1999).” Later on, our credit for recognizing even “gradations of difference” (Hülsmann’s term, not ours) vanishes: “Today, advocates of fractional-reserve banking, such as White (1999) and Selgin (2000), deny that these differences exist at all.” In fact, as anyone who reads our

3. For a set of historical case studies of free banking regimes, see Dowd 1992.

work will see, Selgin and I explicitly recognize the differences between (a) “inside” or bank-issued money and (b) “outside” or basic or reserve money. Nowhere does either of us deny that these differences exist. Hülsmann appears to think that we “deny” the differences because “In their [our] eyes, banks produce money because money titles *are* money—by virtue of the mere fact that people own them for purposes of indirect exchange!” (emphasis in original). But to say that a banknote is “money” is not to deny that it is a different type of money than a gold coin.⁴ To place both types under the wider umbrella of “money,” as we do following standard usage because both are commonly accepted media of exchange, is not to say that the two types of money are identical.

Hülsmann’s reading of the history of banking is that

Again and again fractional-reserve banks have done everything possible to obfuscate the difference between genuine (that is, 100 percent-covered) money titles and imperfectly redeemable IOUs. They have chosen to clothe their IOUs in the same outer garments (account entries, printed and numbered paper slips, and so forth) as genuine money titles, and they have given their IOUs names such as *banknote* and *check* that have made them indistinguishable from money titles.

This is a highly fanciful reading. The names *banknote* and *check* are quite distinguishable from the names *warehouse receipt* or *money certificate*. As for their outer appearances, bank IOUs did not carry the words *bailment* or *warehouse receipt* or *100 percent covered by gold in the vault*, as money warehouse receipts could carry to differentiate themselves. Confusion is especially unlikely given that private warehouse receipts (as far as we can ascertain) have never been circulating bearer instruments like banknotes, for reasons explained earlier.⁵ The very fact that a banknote is payable *to bearer* (and not exclusively to a named party who is paying storage fees) differentiates it from a warehouse receipt. It borders on the absurd to charge banks with modeling their notes after warehouse receipts when no circulating warehouse receipts (“genuine money titles”) existed to be modeled. Banknotes were numbered to deter counterfeiting, not to resemble warehouse receipts. Bank deposits took the form of account entries because they *were* account entries.

4. In Mises’s terminology, a fiduciary banknote is “money in the broader sense,” even though it is not “money in the narrower sense” (1980, 526).

5. The U.S. Treasury did issue “certificates” 100 percent covered by gold and silver, inscribed, for example, with “This certifies that there have been deposited in the Treasury of the United States of America \$20 in gold coin payable to the bearer on demand” or “This certifies that there is on deposit in the Treasury of the United States of America \$10 in silver payable to the bearer on demand.” (U.S. taxpayers footed the bill for coin storage and other costs of issuing the gold and silver certificates. I assume elsewhere in my discussion that money warehouses would have to cover their costs without subsidy.) Private commercial banknotes in the United States were inscribed quite differently. They declared simply that the banking company “will pay the bearer on demand” or “promise to pay the bearer on demand” the note’s face value, with no statement about what was in the company’s vault.

Reinhold C. Mueller finds that a clear distinction was established between warehousing deposits and IOUs early in the development of modern banking, and it was already reflected in a Venetian bankruptcy law of 1330:

Venetian law and practice recognized the distinction between the *depositum regulare* and the *depositum irregulare* developed by jurists in the later Middle Ages. The former involved the consignment of valuables (including money, if in sealed bags). . . . The custodian . . . had to restore to the owner on demand exactly what had been left with him. For the service rendered, he could charge a fee. The irregular deposit, on the other hand, involved coin. . . . The depository had the obligation to “restore the equivalent” (“*restituere tantundem*”), as the jurists put it. The person making an irregular deposit at least tacitly permitted the depository to employ the funds, which implied both the passage of ownership from the depositor to the depository and some kind of participation by the depositor in the risk of the enterprise, whether the deposit was interest-bearing or not. (1997, 12–13)

If this distinction was clear, why did court cases arise over whether a particular deposit was for warehousing or for investment? Hülsmann offers bank misrepresentation as the sole reason for such legal disputes: “semantic trickery from the side of fractional-reserve bankers prompted upset customers to file lawsuits against their banks.” The account of the first case he cites, however, the 1341 case of Isabetta Querini as discussed by Mueller (1997, 11–12), does not indicate that her bank, rather than Mrs. Querini, was misrepresenting their contract. The dispute arose in the context of a bank liquidation, when a depositor could gain by misrepresenting her contract in order to move to the head of the queue. When the Venetian bank of Marino Vendelino failed, Querini sued in merchant court to get her entire deposit back, ahead of other claimants in the bank’s liquidation. She claimed that she had left her money only for warehousing (making it not part of the assets to be divided pro rata among the creditors) and not for investment. She won in the first round but lost on appeal, the appeal court ruling that she in fact had invested the money.

For a second case of supposed misrepresentation by a bank, Hülsmann quotes Wicksell’s (1935) discussion of the Bank of Amsterdam in the seventeenth century, apparently not noticing that it does not support his own story line. The bank issued two products, genuine money warehouse receipts *and* IOUs. Hülsmann supposes that “the public believed [the IOUs] to be genuine money titles because the bank accepted them as cash for any payments.” Yet the difference must have been obvious to the public because, as Wicksell tells us, the warehouse receipts “had to be renewed every six months and the prescribed commission paid,” whereas an IOU “retained its character as a bank liability and therefore continued to circulate throughout the country.” Sure enough, because of the prescribed warehousing fee, “many merchants sold

their deposit receipts or let them lapse and carried on equally well with ‘bank money’ alone” (1935, 75–76). A merchant who sold his warehouse receipt or deliberately let it lapse clearly *did* recognize the difference. As for the nonmerchant public, we are offered no evidence for the implausible proposition that they accepted (commission-free) “bank money” only out of ignorance that they were not getting (commission-laden) warehouse receipts.

These two examples thus really do not “suffice to illustrate that many fractional-reserve bankers have engaged in fraudulent practices.” They do not even show fraud in the two chosen cases, let alone in many cases.

Hülsmann thinks it conceivable that in many cases “no awareness existed of the difference between a liquid IOU and a money title.” (He does not say whether he thinks it conceivable that many members of the public were aware of the difference and consented to the greater return of a fractional-reserve arrangement despite its greater risk.) He speculates: “Such intellectual confusion might have stemmed from ambiguities of language, in particular from ambiguities of the word *promise*. Thus, the traditional inscription of banknotes in the era of commodity money read something like ‘I *promise* to pay to the bearer of this note the amount of X ounces of gold.’” But in the United States and Canada, at least, although the “promise to pay” inscription was fairly common, the more common inscription (exhibited by considerably more than half of the pre-1860 commercial banknotes for sale on eBay) was “*will pay*”—for example, “The Spearsport Bank will pay Five Dollars to bearer on demand” or “The Bank of Montreal will pay to bearer on demand Ten Dollars.”⁶ In Scotland, “promise to pay” was the most common inscription, but one leading bank’s note read: “The Royal Bank of Scotland is hereby obliged to pay to _____ or the Bearer on demand Twenty shillings.” (see Checkland 1975, 188). All of these phrases meant the same thing: they were the language of debt obligations, not of warehouse or bailment obligations. No commercial banknote or deposit contract said anything such as “we are keeping Five Dollars in silver coin in our vault, which remains the property of Mr. Brown (or properly recorded assignee), and will return it on demand, provided that the agreed storage fees are paid.” A money warehouse receipt or bailment contract for silver coin would use such language.

Hülsmann anticipates an obvious objection to his thesis that deposit contracts were persistently obfuscated—namely, that “these issues will come to light (for example, in lawsuits) sooner or later and that henceforth either legal provisions or customer pressures will oblige the bankers always to clarify which kind of product they are offering.” He counters that the pressure for revelation must come from bank customers (forgetting the interests of money warehouseurs), who themselves became part of the cover-up: “in times of normal business the customers have no interest in the discussion of the imperfect nature of their fractional-reserve money titles. Their position as

6. To view the inscriptions on notes currently available for sale on eBay, go to <http://listings.ebay.com/aw/plistings/list/category3420/index.html>).

buyers of a commodity X would be impaired if they had to confess that the money title they are offering as payment for X was not a perfect substitute for the money that the title purports to represent.”

The phrase “fractional-reserve money titles” here is a bit confusing. A banknote is a demandable bank debt. It does not purport to be a warehouse receipt or “money title” in the sense of a certificate covered exclusively and unit for unit by money in the vault. A buyer offering a banknote or check has no confession to make. The seller already knows that he is not being offered coin or a warehouse receipt for coin (with its obligation to pay storage fees). It is true that if the note or check is a claim on a suspect bank, the buyer has no reason to advertise that fact, but sellers are not incurably naive. As Mises observed, “In the course of time, the inhabitants of capitalistic countries would learn to differentiate between good and bad banks” (1978, 140). The seller who ponders whether to accept a note or check at par has every reason to ascertain first whether in turn he can get par value for it. This determination is not difficult: he need only to check his own bank’s current list of “good banks” for whose notes and checks (subject to collection) it will give par value deposit credit. It was common practice in the nineteenth century for sellers to refuse “uncurrent” notes that their own banks would not accept at par.

Mutual Par Acceptance Is Not a “Cartel” Arrangement

Bankers can increase demand for their IOUs by making mutual par-acceptance pacts (Selgin and White 1987). Hülsmann calls this arrangement a “cartel.” A cartel, however, is usually understood as an agreement among firms to *raise* price and otherwise to limit competition, to the detriment of consumers. A par-acceptance arrangement is a *pro-consumer* cooperative arrangement in which each member in effect agrees to sell his product at a *lower* price (to put less of a discount on other banks’ notes in exchange for its own). Unlike the usual cartel, it does not raise prices or encourage the entry of new, price-shaving competitors.

In historical par-acceptance agreements, contrary to what Hülsmann imagines, banks typically did not agree to “redeem at par the IOUs of all other members.” Each clearinghouse member *accepted* other members’ IOUs at par *in exchange for its own IOUs* (banknotes or deposit balances); it but did not gratuitously *redeem* rivals’ notes (for gold). At the end of the day, the accepting bank would take the rival IOUs it had collected to the clearinghouse to redeem them against their issuers. A bank that provided gold for the redemption of its rivals’ IOUs would have subsidized its rivals’ expansion at its own expense. Had all member banks agreed to do so, they would have created a common-pool problem for themselves.

The subsidy and common-pool problems would have been even more severe if the accepting banks had chosen to hold one another’s IOUs indefinitely and not returned them via the clearinghouse. Hülsmann seems to have such a counterfactual

practice in mind when he imagines that “the cartel members will issue more IOUs + RP . . . which they can back up with fractional-reserve IOUs + RP that have been issued by other banks. Other banks in turn would use these additional IOUs + RP to back up their additional fractional-reserve issues, and so forth.” In fact, banks routinely redeemed rivals’ notes for gold because the notes were neither attractive financial assets (they paid no interest) nor useful reserve assets (in comparison with gold or silver). When asked for note currency, a bank naturally found it profitable to issue its own notes (not to reissue a rival’s), so it had no use for rivals’ notes other than to redeem them. Only a legally privileged (central) bank, such as the Bank of England, had its liabilities held as reserves by other banks. Hülsmann’s “zigzag process of fractional-reserve issues and credit expansion” depends entirely on the groundless and historically false assumption that banks foolishly would hold one another’s notes as the equivalent of gold reserves.

The par-acceptance and clearinghouse arrangement did not reduce the pressure on banks to maintain adequate reserves. On the contrary, the clearinghouse rigorously enforced redemptions against member banks, keeping them on their toes. The arrangement made excess notes and checks return all the more quickly and surely for redemption.

In Hülsmann’s scenario, the “very purpose of the homogenization is to eradicate in the eyes of the public the differences between the various IOUs + RP.” But why would a strong bank want to back the debts of a weak rival? Mises cogently explained why it would not:

But, some people may ask, what about a cartel of the commercial banks? Could not the banks collude for the sake of a boundless expansion of their issuance of fiduciary media? The objection is preposterous. As long as the public is not, by government interference, deprived of the right of withdrawing its deposits, no bank can risk its own good will by collusion with banks whose good will is not so high as its own. One must not forget that every bank issuing fiduciary media is in a rather precarious position. Its most valuable asset is its reputation. It must go bankrupt as soon as doubts arise concerning its perfect trustworthiness and solvency. It would be suicidal for a bank of good standing to link its name with that of other banks with a poorer good will. Under free banking a cartel of the banks would destroy the country’s whole banking system. It would not serve the interests of any bank. (1966, 447)

Strong banks historically did not affiliate with weak banks because they did not want doubts about weak banks to spill over onto themselves. For that reason, historical clearinghouse associations had capital adequacy (net worth) requirements for membership. Weak banks were excluded.

Hülsmann's "cartel" scenario is not useless. It provides valuable illumination by contrast: following out its logical implications shows why banks *don't* agree to redeem one another's liabilities or hold one another's IOUs in place of reserves.

The next imaginary scenario is one where "market participants are not aware of the difference between money and money titles, on the one hand, and fractional-reserve IOUs, on the other." The puzzle in this scenario is why the issuers of "money titles" fail to differentiate their products by declaring their 100 percent reserve status boldly on the face of every note and on every deposit agreement. Hülsmann writes: "a money-title banknote and a fractional-reserve banknote might look exactly alike, or the form a bank customer had to fill out for a money-title deposit might look exactly like the form he had to fill out for a fractional-reserve deposit." The two products would look exactly alike, however, only if money warehouses foolishly failed to differentiate their products with prominent labels such as *bailment* or *warehouse receipt* or *100 percent covered by gold in the vault*, labels that the fractional-reserve banker patently could not use.

In Hülsmann's scenario of a clueless public, "the bankruptcy of one bank commonly triggers a domino-effect run on all other fractional-reserve banks, spelling ruin for the entire banking system." But how can one say what happens "commonly" in an imaginary world that has never existed (a world in which banks issue IOUs + RP rather than IOUs + RODCs, are ready to give the public gold for rivals' notes but do not seek gold themselves from the notes' issuers, and face a public oblivious to the difference between banknotes and warehouse receipts)? In historical free banking systems, the bankruptcy of one bank commonly did not trigger contagious runs on all other banks. The suspicion that one bank was *nearing* insolvency commonly would lead to a *gain* in deposits for other banks that were considered stronger, as the first bank's customers made a "flight to quality."⁷

Considering the "uncalculable" probability of bank runs in a system buffeted by domino effects, Hülsmann rejects the theory according to which "an optimal quantity of fractional-reserve notes exists beyond which the risk of further issues more than offsets the possible profits for the bank (White 1989, 1999)." It is true of course that no probabilistic model can incorporate the incalculable. Although the reserve-optimization model in my *Theory of Monetary Institutions* (White 1999) does not deal *explicitly* with bank runs (I consider them elsewhere in the book), runs are implicitly incorporated in the optimization calculus through the probability assigned to reserve losses being equal or nearly equal to total demand liabilities. A more explicit treatment would consider how much more probable a run becomes with various marginal changes in the bank's portfolio. The optimizing banker would disregard runs in his decisions about reserves, other assets, and liabilities only if he believed that no marginal adjustment would have any effect on the probability or costliness of experiencing a run of any size.

Hülsmann's clueless-public scenario unspools finally into a Kindleberger-like scenario of bank mania, panic, and crash. George Selgin (1992) has shown that such a sce-

7. On historical contagion effects, see Kaufman 1994.

nario was *not* what happened in historical panics and crashes. Mises summarized the typical actual results of free banking competition: “For the most part banks of good repute are blamed for their conservatism and their reluctance to expand credit. In the eyes of people not deserving of credit such restraint appears as a vice. But it is the first and supreme rule for the conduct of banking operations under free banking” (1966, 447).

Court Decisions Did Not Ban Money Warehousing

To account for why money warehouseers did not expose the difference between their own product and bank IOUs, Hülsmann maintains that the business of money warehousing was effectively outlawed. He declares: “Today, money warehousing, along with the concomitant issue of money titles, is not a legally protected business in the Anglo-Saxon world.” Yet he provides no evidence that this condition exists today, much less that it has existed for centuries. He cites not a single court ruling or legislative act that has outlawed money warehousing.

An interesting historical question arises here: Why had money warehousing, apparently a significant part of the banking business in fourteenth-century Venice and in early-seventeenth-century Amsterdam, virtually disappeared from the market by the time of nineteenth-century London? Ellis T. Powell (1966) provides evidence that the decline in money warehousing came not when the law changed but when the customers of the London goldsmith-bankers, in the second quarter of the seventeenth century, began to find fractional-reserve deposits more attractive than warehousing. As the goldsmith-bankers began to lend money, having previously been plate dealers and gold warehouseers, competition compelled them to waive storage fees and then to offer interest (at the considerable rate of 6 percent per annum) on short-term deposits. Powell quotes a contemporary source on the popularity of these new accounts: “this new practice giving hopes to everybody to make Profit of their money, until the hour they spent it, and the conveniency, as they thought, to command their money when they pleased, which they could not do when lent at interest upon personal or real Security; These hopes, I say, drew a great Cash into these new Goldsmiths’ hands” (61–62).

Given that money warehousing virtually had disappeared by the nineteenth century, we should not be surprised to find English courts then ruling that any ordinary deposit contract, which was neither an explicit bailment of money in a sealed container nor a contract explicitly specifying the retention of 100 percent reserves, was an IOU, leaving the bank discretion over its allocation between reserves and other assets. In other words, the court ruled that a bank deposit *in the absence of explicit contract terms to the contrary* was an unsecured debt claim. Such legal treatment is a far cry from a ban on warehouse banking or from the establishment of a “monopoly of fractional-reserve banking.”

Common-law courts recognize bailments in the warehousing of goods. In a standard bailment contract, the “bailee” (for example, a warehouse) takes custody of

a specific piece of property delivered by its owner and agrees (for a fee) to store it safely until the “bailor” (owner) calls for it. Bailment is not the universal default rule for storage. For example, according to Stephen F. White (2002), “Bailment relationships between boat owners and their marinas are not the norm. They require extraordinary security. . . . [U]nder maritime law, most courts have refused to recognize the existence of a bailment unless there is an express written agreement between the parties creating one.” Powell (1966, 68) cites an 1820 case recognizing that lodging a cask of gold coins in a bank constitutes a bailment, not a debt. So the presumption must be that an explicit bailment contract for warehousing money, or a 100 percent reserve contract, would be enforceable. To rebut this presumption, Hülsmann would have to find a court decision declaring that an explicit 100 percent reserve contract was null and void.

Legally protected money warehousing exists even today. U.S. law treats the storage of money (or of any other property) in a bank safety-deposit box as a bailment.⁸ Several firms offer money substitutes under explicit warehousing contracts: for example, e-gold Ltd. and Crowne Gold offer explicit 100 percent-backed gold transactions accounts, and NORFED, Inc., offers circulating notes that are explicit warehouse receipts for silver. The face of a “one-ounce silver” NORFED note reads: “Silver certificate. This is a receipt . . . given in exchange for Title to One (1) Troy ounce of .999 Fine Silver.” The back reads: “Warehouse Receipt. . . . This warehouse receipt for one (1) troy ounce of .999 fine silver stored at the warehouse identified below shall expire unless renewed or surrendered within twenty years from date of issue. The undersigned warehouse official certifies that this silver is insured against fire and theft. Storage and insurance fees have been prepaid for five (5) years from date of issue.” This example shows how a 100 percent reserve note can be inscribed to differentiate itself clearly from a fractional-reserve note.⁹

8. In *Seitz v. Lemay Bank & Trust*, 959 S.W. 2d 458 (Mo. banc 1998), the court held the bank liable to a safety deposit-box holder, viewing the contract as a bailment, when flooding damaged the goods stored in the box. The Supreme Court of Missouri affirmed: “When a bank lets a safe deposit box to a customer, a bailment relationship is created” (*Geoffrey J. Seitz and Valerie A. Seitz v. Lemay Bank & Trust Company*, available at <http://www.osca.state.mo.us/Courts/PubOpinions.nsf/0f87ea4ac0ad4c0186256405005d3b8e/cb864dc905eeaf918625659800542a93?OpenDocument>). The bailment of money in sealed containers or safety-deposit boxes clearly does not provide an immediately workable model for a checkable deposit with 100 percent reserves. A model might be sought, however, in contracts for the warehousing of standard-grade grain in elevated silos, which for convenience (grain goes in at the top and out at the bottom) allow the warehouse to “repay” the “depositor” in equivalent rather than the very same grain.

9. For e-gold, see <http://www.e-gold.com>; for Crowne Gold, see <http://www.3pgold.com>. The NORFED notes (“Liberty Dollars”) are the seeming exception that actually proves the rule that 100 percent reserve warehouse notes cannot circulate at par because they cannot recover storage costs in any convenient way. The notes can waive explicit storage fees only because NORFED gives the one-ounce silver note a face value of (and sells it for) U.S.\$10, whereas the warehoused silver ounce has a current market value of approximately U.S.\$5. On a marked-to-market basis, then, the notes have a fractional reserve. For more on the NORFED enterprise, see <http://www.norfed.com> and White 2000.

Hülsmann reads the English judges as “evoking a completely unwarranted and fallacious a priori principle. They argued that all sums of money received by banks are necessarily investments.” A more sensible reading is that the judges had to appeal to some default-mode understanding of what a “bank deposit” is *when the contract is silent on the disposition of the deposited sums*. It is reasonable to think that a customer wanting a bailment should not expect one from a “bank” that does not declare itself a “warehouse” or otherwise does not promise 100 percent reserves. In particular, Lord Cottenham’s judgment, holding the bank responsible only for meeting its explicit contractual obligation (to redeem on demand) and not for something not specified (whether and how it invests the deposit), is quite consistent with upholding an explicit warehousing contract where one exists. Thus, Cottenham’s ruling does not “den[y] the very possibility of banking in the sense of money warehousing.” It does not say that an explicit money-warehousing contract *cannot* be written. It simply says that a bank deposit *that doesn’t purport to be a warehousing contract* is not *by default* a warehousing contract. Cottenham did not innovate, but simply confirmed the common practice and consequent understanding of his time that a “bank” was not a money warehouse. He did not rule that the courts would refuse to enforce an explicit money-warehousing contract.

The position that money warehousing did not become illegal under Anglo-American law, but merely unpopular, that the law never gave “fractional-reserve banking a de facto monopoly,” would be bolstered if an example could be found of an explicit money warehouse allowed to open for business in the nineteenth century. Contrariwise, the position that money warehousing was illegal would be bolstered if an example could be found of the legal suppression of an explicit money warehouse. More information needs to be gathered to draw a conclusive judgment, but an example of the first sort does appear to exist. The *Banker’s Magazine* in November 1858 (a year after the panic of 1857) first reported efforts to found “the Bullion Bank of New York.” Under the Bullion Bank’s business plan, “the deposits are not to be used, any part of them, by the bank; but are to be retained always in actual cash to the order of the several depositors; the deposits will consequently be always, to the full amount, on hand in cash” ([Untitled article] 1858, 409). The bank would cover its costs with “commissions” charged on deposit balances and transfers. In its December issue, the magazine published the Bullion Bank’s prospectus. In April 1859, it printed the bank’s Articles of Association, dated February 17, 1859, and reported: “It is understood that this institution will commence operations at an early day” ([Untitled article] 1858, 409; “A Bullion Bank” 1858; “The Bullion Bank of New York” 1859, 759). No mention appears of any legal barrier facing the bank. I have not found, however, any report of the bank’s actually opening for business (or of the project’s being scrapped). I suspect that the projectors simply failed to raise the capital (\$1 million) they aimed for, but this outcome remains to be confirmed.

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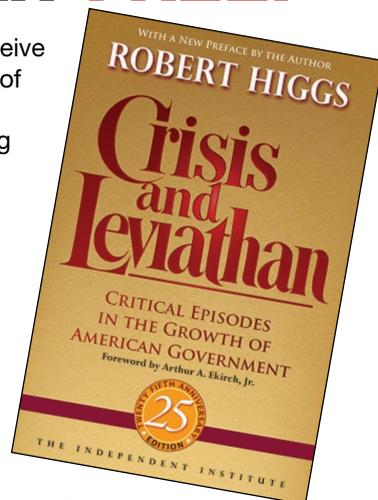
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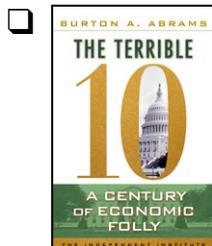
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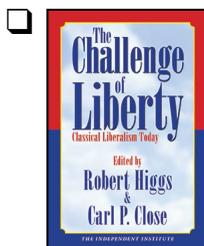
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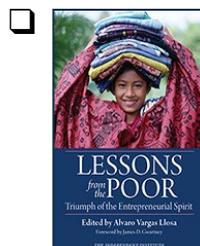
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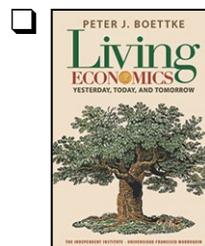
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Has Fractional-Reserve Banking Really Passed the Market Test?

— ◆ —

J. G. HÜLSMANN

The theory of free banking has experienced a great renaissance in recent years. The authors of many articles, books, and doctoral dissertations have made the case for the possibility and suitability of a purely private or competitive banking system. Virtually all these works were inspired by some variant of Austrian economics, which is no surprise, because Austrians tend to analyze institutional arrangements without any a priori bias in favor of government solutions. In any case, the new literature on free banking is one of the most important fruits of contemporary Austrian economics.¹

Disagreements among these modern authors concern for the most part the economic and legal significance of fractional-reserve banking. More recently, two considerations have played an especially important role in the debate. Defenders of fractional-reserve banking stress that it is a legitimate market activity because, after all, nobody is coerced into accepting fractional-reserve money substitutes.² They also emphasize the fact that, today, virtually all Western banking systems operate on a fractional-reserve basis. It is therefore not farfetched to argue that this manifest practical success derives at least in part from the socially beneficial character of fractional

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1. See Hülsmann 2000a for an overview. See also Nataf 1982, 1987, 1991, and 1997. Among more recent writings, see Gentier 2000, 2001; Janson 2001; Salin 2001; and Terres 1999.

2. See, for example, Salin 2001, Selgin 2000, and Selgin and White 1996.

reserves, which have, so to speak, passed the “market test,” whereas the alternative institutional arrangement of 100 percent reserves for money titles has not.³

These arguments are important and powerful ones. My purpose in this article is to evaluate them through a reexamination of fractional-reserve banking in light of the role that product differentiation plays in the market process. I believe this approach is necessary if we are to come to grips with the point of view championed by a group of French economists who, though endorsing a rejection of Lawrence White’s and George Selgin’s economic case for fractional-reserve banking, uphold it on moral grounds as a *possibly* legitimate free-market business (see, in particular, Gentier 2001; Nataf 1997; Salin 1998, 2001). By contrast, White and Selgin’s position more or less implies that fractional reserves are *inherently* beneficial and legitimate. Several authors, including myself, have pointed out the shortcomings of this latter position, showing that it relies on fallacious economic principle and refuting it by a discussion of these principles. It now seems to be necessary to restate the case against fractional-reserve banking in a more nuanced way than it has been stated in previous writings. My goal is to examine the precise conditions under which fractional-reserve banking might be a legitimate free-market activity and what the exact nature and scope of this activity would be. My analysis demonstrates the fruitfulness of this focus on product differentiation.

I first describe several types of banking products that can be distinguished meaningfully on practical grounds. I discuss the extent to which fractional-reserve banking involves offering such a distinguishable product and what role this product is likely to play in the market process. Then I analyze an important case in which the market participants do not distinguish between two inherently different banking products—namely, money titles and fractional-reserve IOUs. I show that in this case Gresham’s Law becomes operative—the fractional-reserve IOUs crowd out the money titles. The monetary system turns into a fractional-reserve monetary system and becomes subject to recurrent liquidity crises (business cycles) that jeopardize the division of labor in the entire economy. I argue that these consequences result independent of whether their cause—namely, lack of product differentiation—is brought about accidentally or intentionally.

I then show that a good deal of evidence exists for the intentional suppression of product differentiation in the past. In many cases, fractional-reserve banking has relied on obscurity of language, which the bankers have promoted intentionally and fraudulently. I also argue that the differentiation between fractional-reserve IOUs and genuine money titles has been suppressed not only through fraud, but also through outright coercion. Today, money warehousing, along with the concomitant issue of money titles, is not a legally protected business in the Anglo-Saxon world. Fractional-reserve banking alone enjoys legal sanction. Its present-day dominance in deposit banking is therefore not a matter of having passed the market test, but of legal privilege and monopoly.

3. See, for example, Salin 2001 and Selgin 2000, 99.

Finally, I briefly consider the impact of modern monetary institutions—in particular, central banks and paper money—on product differentiation in the banking industry. I argue that these institutions have prevented a clarification of the nature of fractional-reserve banking and that therefore they are best understood as instruments in an extended political cover-up.

Some Types of Banking Products

My purpose in this section is not to give an exhaustive typology of banking products, but to argue that at least two product types differ categorically. Most financial instruments have, of course, an intermediate-type nature: financial engineers try to blend risks and benefits of the various purer instruments into new mixes that appeal to the customers.

A first type of banking is money warehousing. The bank stores money for other people and issues standardized *money titles*, such as banknotes, to the depositing customers, who can then use these banknotes in their daily transactions in lieu of money proper. Fundamentally, the bank acts here as a warehouse for money, and therefore its money titles are covered 100 percent.

A second type of free-market banking is credit banking. Here people invest their money in the bank for a certain length of time—for example, by granting a credit to the bank or by buying its bonds. The bank issues an “I owe you” (IOU) to the creditor, to whom it pays interest, and lends the money at a higher interest rate to a third person, thus earning an income from the interest-rate differential.

The crucial difference between these two types of products—money titles, on the one hand, and credit claims or IOUs, on the other—is that in the first case the depositor retains an exclusive legal claim to the money at any point in time, even though the money is physically stored in the warehouse. By contrast, in the second case the bank obtains a temporary exclusive legal claim to the money during the time of the credit, and only after this time does the creditor regain his exclusive legal claim to the money. Thus, the two types of banking differ categorically. A business either engages in money warehousing and sells money titles or engages in credit banking and sells IOUs. No third possibility exists. It makes no sense to say, for example, that both the banker and his customer have valid legal claims to the same sum of money at the same time, and it would be impossible for both to use the same sum of money at the same time (Hoppe, Hülsmann, and Block 1998).

Credit banking can be modified in countless ways to suit the particular needs of bank customers with tailor-made financial instruments. One modification that is important for our present purposes consists in making the IOUs more liquid. For example, a credit bank can *standardize* its IOUs to facilitate market penetration, as stock papers or bonds are standardized. In this case, liquidity comes at no expense of return. It is simply an additional feature of the IOU.

Conceivably the most efficacious way to increase the liquidity of IOUs is to promise their owners that the IOUs can be redeemed in cash on demand. This prom-

ise is made, for example, in the contemporary case of so-called time deposits. The return on the IOU is then lower than it otherwise might be because the banker keeps a bigger amount of cash to satisfy customers who have chosen this investment scheme. Also, the customers know that they have no guarantee that they can always get money by presenting their IOUs because this possibility is contingent on the amount of IOUs presented by other customers at the same time. After all, the banker merely gives his promise to “try his best” to redeem the IOU on demand. The very fact that some of the money represented by the IOU is lent to other customers prevents him from guaranteeing redemption—at least from guaranteeing it *in the same sense* in which it can be guaranteed for money titles.

Free Banking under Product Differentiation

The case that can be made for “free-market fractional-reserve banking”—that is, for some sort of fractional-reserve banking that inherently does not violate private-property rights—relies entirely on the scenario I have just described. At least some defenders of fractional-reserve banking concur with this view. Pascal Salin asserts that his case for fractional-reserve banking relies on the following interpretation of a “deposit” contract: “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” (2001, 4). Salin’s scenario is indeed a possible one. It can so happen that a person who “deposits” a sum of money with his banker really means to buy an IOU plus redemption promise.

Indeed, it is not difficult to see that a free market might exist in IOUs plus redemption promise (IOUs + RP). Although these IOUs yield lower returns than other investments, they are more liquid; and although they are not always as liquid as money titles, they are costless or even promise some return. Their high liquidity makes them much more suitable than stock papers or bonds as a means of payment in daily transactions, even though they are not quite as liquid as money titles because they have a higher default risk. In short, IOUs + RP offer a particular combination of risks and benefits that the previously mentioned alternative banking products do not offer.

There is no reason to assume that all these IOUs + RP would be homogeneous. Each bank might offer a slightly different one, and, even apart from the question of how the banks themselves offer their IOUs + RP, customers might evaluate these IOUs differently, for example, because the coverage ratio might differ from one bank to another. For reasons I discuss later, however, bankers have an incentive to standardize and homogenize the various IOUs + RP.

Granted that a market for IOUs + RP is perfectly conceivable and that such a market probably would play some role in any fairly advanced monetary economy, how

large would this market be, and how important would it be in comparison with the markets for money titles and pure credit instruments? I cannot answer these questions in any general way because the answer depends on the particular circumstances of time and place and, ultimately, on the individual market participants' decisions. The only sure way to find out how large the market for IOUs + RP would be to create a truly free market by protecting private-property rights and then applying *laissez-faire*.

As far as the more limited phenomenon of *monetary* exchanges is concerned, however, we can be fairly certain that virtually all monetary exchanges would be made in cash or genuine money titles only. At any rate, we would have to expect this outcome in a market characterized by rigorous product differentiation. The reason is that *all* genuine money titles are valued at one equal rate with money proper (that is, all would be valued at par), whereas the various fractional-reserve IOUs + RP would be evaluated at different rates (all of which would be below par because of the higher default risk). The IOUs + RP of the various issuing banks would be valued differently because these banks have different risk exposures owing to their particular geographical situation and especially to the particular structure of their assets and liabilities. From this condition, it follows that, for all practical purposes, each individual IOU + RP would be a heterogeneous good. It therefore would be unsuitable as a medium of exchange in a wide network of indirect exchanges. Its use as a medium of exchange would be limited to a more or less narrow circle of experienced people who know the issuer's particular situation and who therefore are in a position to assess the risks of using this particular IOU + RP.

In short, in a free market with proper product differentiation, fractional-reserve banking would play virtually no monetary role. Salin believes that "among fractional-reserve systems, those with individual responsibility would probably be preferred to those with 'collective' responsibility, because people will have experimented that they are less inflationary" (2001, 24). I agree, but of course this superiority of individualized fractional-reserve banking would mean that fractional-reserve IOUs would play virtually no monetary role. The fractional-reserve IOUs + RP would be traded in rather narrow circles of merchants and bankers, whereas the overwhelming majority of the population would pay in cash or with genuine money titles. (This outcome is exactly what Henri Cernuschi anticipated when he said that he advocated the right of everyone to issue his own banknotes, so that no one would accept banknotes any more: "I believe that what is called freedom of banking would result in a total suppression of banknotes in France. I want to give everybody the right to issue banknotes so that nobody should take any banknotes any longer" [Cernuschi 1866, 55, qtd. in Mises 1998, 443]. Today, for the same reason, Philippe Nataf maintains Cernuschi's position.)

This result obtains, as previously stated, in a free market with proper product differentiation. Now, in the free market, strong forces ensure the maintenance of such product differentiation. In fact, virtually all market participants have at least some incentive to make and to maintain relevant distinctions between the various financial

products. Bank customers surely have an incentive to inform themselves well about the comparative risks and benefits of the various financial products. Some professional financial advisors work primarily to keep their customers well informed about the differences between different products. Even the producers themselves have at least some incentive to distinguish the essential features of their products from the essential features of competing products. Money warehouses, for example, have an incentive to stress the comparatively greater security of their money titles, even though they will be silent when it comes to talking about deposit fees. Similarly, free-market fractional-reserve bankers certainly have an interest in stressing the comparative inexpensiveness of their IOUs + RP, although they have no interest in stressing their comparatively higher default risk.

Banking Crises under Product Differentiation

How would fractional-reserve banks' refusals to redeem their IOUs + RP play out in such a setting? Let us say the Brown Bank has in the past issued banknotes as IOUs + RP and now declares that it presently cannot redeem these notes. This action would not entail any legal problems because the Brown Bank had merely "promised to do its best" to redeem its notes on demand before the IOU comes to maturity. It never said that the money would be there, as in a money warehouse, waiting to be picked up by the owner of a money title. It therefore has not defaulted on the contract, which merely stipulates payment of the owed money at some not yet defined point in the future.⁴

What would be the economic implications of its refusal to redeem the banknotes? As a direct consequence, some goods cannot be sold at the prices at which they otherwise could have been sold. Certain customers of the Brown Bank cannot cash in their fractional-reserve notes. It follows that these persons cannot use the money that they expected to have after redemption to buy goods on the market. In order to be sold at all, these goods therefore have to be sold at lower prices, which might imply that some businesses will become unprofitable and go bankrupt.

It needs to be stressed, however, that in the setting we are considering right now, the negative repercussions of a refusal to redeem IOUs + RP remain within more or less narrow limits. This containment occurs for the following reasons.

First, one bank's refusal does not necessarily affect the ability of the other fractional-reserve banks to redeem their IOUs + RP. As I have pointed out, the various IOUs + RP circulating in the market are perceived as different goods, and therefore each of them is evaluated on its own terms. One bank's refusal does not warrant the expectation that other fractional-reserve banks might refuse to redeem their IOUs

4. All present-day fractional-reserve banks do not specify a fixed maturity of their IOUs. This condition per se does not make fractional-reserve banking illegitimate; in fact, the contract between the banker and his customer might provide for contingent rules that determine maturity. One example is option clauses: here the banker can refuse to redeem the IOU only by invoking the agreed-on option clause; accordingly he then would have to fulfill his obligation at the latest after the time stipulated in the clause.

+ RP. In fact, it might very well be the case that the other banks redeem the IOUs + RP of the Brown Bank, even though at some higher discount rate than before. In this case, Brown's redemption refusal would not alter substantially the character of its IOUs + RP. They still would be very liquid IOUs, the only change being that their market price had dropped to reflect the diminished services of the issuer, Brown.

Second, regardless of how many banks refuse to redeem their IOUs + RP, the monetary system is hardly affected at all. As I have argued earlier, under thorough product differentiation, IOUs + RP would play no significant monetary role in the first place because they are (rightly) perceived as heterogeneous goods and command different prices. Virtually all monetary exchanges would be made with money proper or with genuine money titles. It follows that, even if the redemption refusal of one bank triggers a confidence crisis within the entire fractional-reserve sector and forces the other fractional-reserve issuers to refuse redemption, too, this refusal will have practically no effect on the monetary system. The quantity of money proper and of genuine money titles will be entirely unaffected by such a possible collapse of the fractional-reserve sector.

To sum up, because under a regime of thorough product differentiation fractional-reserve banking would play no significant monetary role, it would have no more harmful effects than any other kind of business venture. Any damage would accrue in the main to those who voluntarily had chosen exposure to the specific risks of fractional-reserve IOUs + RP.

Free Banking under Homogenized Fractional Reserves

Fractional-reserve bankers have a powerful incentive to eradicate product differentiation in the fractional-reserve business or, at any rate, to diminish the public's awareness of the differences between their products. To the extent that fractional-reserve bankers can enlarge the circle of persons ready to accept their IOUs + RP in monetary exchanges, they increase the demand for these IOUs. It is difficult to bring about this increased acceptance as long as people perceive each of the different IOUs + RP as a heterogeneous good because in this case each of them commands a different set of market prices, which makes the IOU unsuitable as a medium of exchange. Therefore, the fractional-reserve bankers have an incentive to cartelize themselves in order to eradicate the differences between the various IOUs + RP that the individual banks issue and to offer some sort of *homogenized* IOU + RP.⁵

This scheme might be put into practice, for example, by each cartel member's commitment to redeem at par the IOUs + RP of all other members. Before the creation of the cartel, each bank would have redeemed only its own IOUs + RP at par,

5. A formal cartel agreement or organization would not be strictly necessary to enforce the homogenization process. I am indebted to Pascal Salin for this point.

whereas it would have redeemed the other IOUs + RP at a discount, giving rise to different market prices for the different IOUs + RP. After the cartel agreement, each bank would redeem at par the IOUs + RP of all cartel members, and as a consequence the various IOUs + RP would command the same market price. In other words, the cartel agreement would bring an “IOU + RP price system” into being. The prices paid in terms of these homogenized IOUs might still be higher than prices paid in terms of money or money titles, but the homogenization nevertheless would increase the attractiveness of IOUs + RP for use as media of exchange.

Moreover, it would increase their attractiveness vastly for use as financial assets and thus as collateral for further credits. The cartel agreement would reduce greatly the risk that any given IOU + RP cannot be redeemed at par at any point in time. As a consequence, the cartel members would issue more IOUs + RP than previously, for example, in the form of more fiduciary credits (“credits out of thin air”), which they can back up with fractional-reserve IOUs + RP issued by other banks. Other banks in turn would use these additional IOUs + RP to back up their additional fractional-reserve issues, and so forth. The cartelization of the fractional-reserve banks therefore reinforces a zigzag process of fractional-reserve issues and credit expansion (Hülsmann 2000b, 431).

What impact will the homogenization of IOUs + RP have on monetary exchanges? Again, it is impossible to make any generally valid statements about the absolute quantitative impact of this homogenization process on the demand for IOUs + RP. All we can say is that homogenized fractional-reserve banknotes would be used more frequently as media of exchange than heterogeneous notes. We cannot say, however, to what precise extent the market participants would prefer using these homogeneous IOUs + RP to using money proper or genuine money titles. Both products have distinctive advantages and disadvantages, and only the market process can show, by its results, how the market participants weigh these advantages and disadvantages.

In any case, the one great disadvantage of fractional-reserve IOUs + RP as compared to money titles remains. Fractional-reserve banks are more likely than money warehouses to refuse redemption, and the cartelization and homogenization of fractional-reserve banking aggravates this problem in one important respect. As noted earlier, under strict product differentiation, one bank’s refusal to redeem its IOUs has no necessary consequences for the other banks. In a system of homogenized IOUs + RP, however, the situation differs. Here, one cartel member’s refusal to redeem its IOUs + RP invariably will set off bank runs on the other members. Then all members of the fractional-reserve banking cartel will have to refuse redemption, for two reasons.

First, the very purpose of the homogenization is to eradicate in the eyes of the public the differences between the various IOUs + RP. The cartel’s redemption policy is intended to dissuade the public from raising questions about the financial probity of individual issuers. Thus, when circumstances force one bank to refuse redemption of its IOUs, the public is likely to become suspicious about the continuing redeemability of other IOUs as well.

Second, and more important, the other banks keep the IOUs + RP of the refusing bank as collateral for their liabilities. One bank's refusal to redeem at par its IOUs on demand jeopardizes the term structure (and thus the risk structure) of the assets of all other banks holding these IOUs as supposedly highly liquid collateral. Now these other banks discover that they cannot rely on the IOUs of the refusing bank to back up the redemption promises they had given on their own IOUs. As a consequence, they quickly refuse redemption, too.

The homogenization of the IOUs + RP thus ensures that any one bank's redemption refusal spreads in a domino effect to the rest of the fractional-reserve banks. The domino effect is the scourge of the homogenized fractional-reserve banking cartel. Its mere threat operates as a deterrent against fractional-reserve bank customers' use of fractional-reserve IOUs and against fractional-reserve bankers' joining such a homogenizing cartel.

The possible occurrence of the domino effect cannot be eliminated by any technical or organizational means. Such measures do not strike at the root of the problem—namely, the fractional-reserve coverage of the redemption promise. The possibility always remains that one cartel member will not be able to honor its promises. As soon as this contingency occurs, the domino effect quickly destroys the entire cartel. In the course of time, fractional-reserve bankers have created various institutional devices—in particular, various institutional set-ups designed for the pooling of money reserves—to ensure that all cartel members always will be able to redeem their IOUs, but these measures do not and cannot eliminate the problem of undercoverage (Huerta de Soto 1998; Hülsmann 1996a, 1998).

Even if all members of the fractional-reserve banking cartel were to refuse redemption of their IOUs, this refusal would not necessarily jeopardize the monetary system, and it would not necessarily lead to an economic crisis, entailing the simultaneous bankruptcy of a great number of firms. The homogenization of IOUs + RP might increase the monetary role of these IOUs, but it would not lead to the displacement of money and of genuine money titles. The fractional-reserve cartel eliminates product differentiation only insofar as IOUs + RP are concerned; it does not touch the difference between IOUs + RP, on the one hand, and money and money titles, on the other hand. Therefore, to the extent that exchanges in the economy are based on the latter, a refusal of the fractional-reserve banks to honor their promises cannot entail a collapse of the monetary system.

Moreover, the fractional-reserve banks' refusal to redeem their notes is not, in the context we have considered so far, a breach of contract; it is not a case of bankruptcy. The banks were the owners of the money entrusted to them in exchange for their IOUs + RP, and thus they merely promised redemption in the sense that they would try their best to buy back their IOUs with money or money titles. (In distinct contrast, the money warehouses are not the owners of the money deposited with them, so in their case *redemption* of a money title has a completely different meaning—namely, a surrender of property from the guardian to the owner.) As a con-

sequence, the operations of the fractional-reserve banks are not disrupted in any way by their inability to redeem their notes. Likewise, this inability does not necessarily disrupt the operations of any other market participant. As long as the market participants are aware of the true nature of IOUs + RP—that is, as long as they are aware of the difference between these IOUs and genuine money titles—they can base their business calculations on money payments alone, discounting any payments made in IOUs + RP by a factor that reflects the uncertainty of redeeming these notes into money.

To sum up, even when a cartel of fractional-reserve banks homogenizes the various IOUs + RP these banks issue, these homogenized IOUs + RP are unlikely to displace money and genuine money titles. To the extent that the monetary system remains based in large part on the latter, any sudden irredeemability of fractional-reserve IOUs cannot bring about a meltdown of the monetary system or a general economic crisis.

Confusion of Money Titles and Fractional-Reserve IOUs

So far our analysis of fractional-reserve banking has been based on the assumption that fractional-reserve banknotes and deposits (designated IOUs + RP) are, in the eyes of market participants, clearly distinguished from money and money titles. Let us now drop this assumption and consider a situation in which market participants are not aware of the difference between money and money titles, on the one hand, and fractional-reserve IOUs, on the other. Let us assume that market participants believe, for whatever reason, that the services of a money-title banknote are essentially the same as those of a fractional-reserve banknote, thereby confusing these two essentially different things. What consequences does this subjective view have?

As a preliminary, it should be stated clearly that this view is in fact erroneous. These two types of banknotes are not really the same thing ultimately. Rather, we have here one of the many instances in which the same word—here *banknote* or *deposit*—is used in two incompatible senses. To be sure, a money-title banknote and a fractional-reserve banknote might look exactly alike, or the form a bank customer had to fill out for a money-title deposit might look exactly like the form he had to fill out for a fractional-reserve deposit, but these similarities are superficial. Having considered this matter already in some detail, let us now examine the implications of the confusion.

Notice first that the confusion between money titles and fractional-reserve IOUs brings into operation what is commonly known as Gresham's Law. Imagine a potential bank customer who is offered two types of deposits with a bank. He believes that both deposits deliver exactly the same services. The only difference is that he has to pay for the first type of deposit, whereas does not have to pay—or even receives payment—for the second type of deposit. Clearly, he will choose not to be charitable to his banker and will subscribe to a deposit of the second type. When genuine money

titles and fractional-reserve IOUs are confused, therefore, the latter will drive the former out of the market.

Second, the economywide confusion about the nature of fractional-reserve IOUs sets in motion an error cycle that gives rise to a periodic recurrence of booms and busts (Hülsmann 1998). Let us consider this consequence in greater detail.

Money warehousing does not involve any particular risk that necessarily jeopardizes business success periodically. Here, as in other “normal” businesses, people have an undisturbed relationship to reality. (More precisely, in any normal business, people do not have a priori a disturbed relationship to reality. They can perceive real-world conditions correctly and in fact do so perceive them on a more or less regular basis. In the case of a confusion of money titles and IOUs + RP, however, such an undisturbed relationship is ruled out ipso facto.) In regard to money warehousing, people’s beliefs about what exists here and now correspond for the most part to what does exist in reality. By and large, they have a correct opinion about the existence of factors determining their success. In particular, they tend to have a correct opinion about the things they own right now and can put to use for future benefits. If they own a money title over twenty ounces of gold, they believe that these twenty ounces exist, and in a genuine money warehouse they do exist. Uncertainty, ever the companion of human action, clouds not so much presently existing things as it hides future events, especially customers’ future decisions. Yet this condition is not peculiar to deposit banking; it applies just as much to other types of banking or to businesses in other fields of industry.

The same holds true for the issue of IOUs + RP. These bankers and their customers by and large also have correct views about what they own and what they owe here and now. Most important, the customers know that they cannot count on having the money corresponding to their IOUs always ready at hand. They count only on the money and money titles in their possession because only these items are part of their property here and now.

In distinct contrast, the view that fractional-reserve IOUs provide exactly the same services as genuine money titles distorts reality. It is not true and it cannot be true in any circumstances that such IOUs represent a corresponding amount of money in the banks ready to be picked up at any time. By the very nature of fractional-reserve banking, more IOUs exist in circulation than money proper. The economywide confusion of such IOUs with genuine money titles thus entails a systematic dissociation between the real world and what market participants believe the real world to be. Each market participant believes that a certain amount of money is readily available for him here and now, but this amount of money does not exist in the aggregate. Hence, in this sort of fractional-reserve banking, there is necessarily a discrepancy between what people believe exists and what really exists. In this sense, such fractional-reserve systems are in a permanent state of disequilibrium.

As long as the banks can satisfy redemption demands, this systematic error of the market participants remains unexposed. Only when a bank is faced with more redemption demands than it can satisfy out of its reserves does the fraud become obvi-

ous. Because of the connectedness of all businesses, the bankruptcy of one bank commonly triggers a domino-effect run on all other fractional-reserve banks, spelling ruin for the entire banking system.

Advocates of fractional-reserve banking have questioned the inner necessity of these events. They have argued that an optimal quantity of fractional-reserve notes exists beyond which the risk of further issues more than offsets the possible profits for the bank (White 1989, 1999). In the case we are now considering, however—the case of a confusion between IOUs and money titles—this argument is clearly fallacious (Hülsmann 1996a, 1998, 2000b).

First, entrepreneurs face not only calculable risk, but incalculable uncertainty (Knight 1921; Mises 1998, chap. 6). Bank customers' decision to stage a run is to some degree tainted with uncertainty, and therefore it cannot be incorporated into a clean-cut cost-benefit calculus. The banker has no way of knowing how far he can go with further note issues. He has to find out by trial and error—that is, he has to speculate on the likelihood of redemption demands in the future. Yet in this speculation he can be dead wrong.

Second, even if it were possible to calculate something such as a probability distribution of redemption demands, a cost-benefit analysis still would be impossible because in the case of a confusion between IOUs and money titles it is impossible to give a clear-cut account of (opportunity) costs. The fundamental fact is that one can define the costs of a decision only if the decision maker's property is given because any decision concerns the use of given property, and the opportunity cost of a decision is the value of the next-best use of the property in question. Now, if IOUs are held to be the same thing as money titles, then it is not at all clear what belongs to whom because multiple claims exist for any given quantity of money at any point in time. As a consequence, the bankers, insofar as they rely in their decisions on a money calculus at all, systematically underestimate the cost of their decisions.

Third, the bankers, finding themselves under the pressure of competition, are pushed to explore the very limits of their note issues. The more rigorous the competition, the quicker they will reach the point at which any further note issue or any unforeseen event will trigger the bankruptcy of the weakest bank first and then of the rest of the rotten industry.

To sum up, the economywide confusion between money titles and fractional-reserve IOUs by its very nature produces business cycles and their characteristic features: money-title expansion in the boom phases and sudden contractions of the use of fractional-reserve money titles in the bust phases.

Fraudulent Fractional-Reserve Banking

The foregoing analysis shows the a priori consequences of a confusion between money titles and fractional-reserve IOUs. For the veracity of our analysis, it is irrele-

vant whether there is in fact or has been at some time in the past a confusion of this sort. Also irrelevant is why such a confusion came about in the first place.

So far we have been able to neglect these questions and even had to neglect them because they concern not theoretical issues, but historical facts. Whether money titles and fractional-reserve IOUs are confused in the present-day United States, or whether they were confused in sixteenth-century Florence or in eighteenth-century Hamburg or at other times and places—these are matters of historical fact. As far as the present-day United States is concerned, I am inclined to believe that the confusion is a matter of fact, the best proof being certain American advocates of fractional-reserve banking themselves, who maintain that only gradations of difference exist between money, money titles, and fractional-reserve IOUs (Selgin 1988, 1996; White 1989, 1995, 1999). Similarly, if such inferences from monetary experts' opinions have any value at all, then France does not seem to have fallen prey to the confusion that is here in question. Salin, despite all his sympathies with fractional-reserve banking, clearly states that in this system “money-holders do know that they only have a conditional title” (2001, 21).

In any case, the existence of the confusion we were considering here, as well as the reason why the confusion arose in those cases where it did arise, can be ascertained only by concrete historical case studies. This question has special interest from a moral and legal point of view because it brings into play the issue of fraudulent fractional-reserve banking. Given that fractional-reserve bankers are among those who stand to profit from a confusion of money titles and fractional-reserve IOUs, it is not far-fetched to suppose that at least some of them have fallen prey occasionally to the temptation of promoting such confusion. If a fractional-reserve banker knowingly misrepresents his IOUs as conveying all the benefits that only money titles can convey, then clearly this misrepresentation would amount to fraud.

A cursory examination of the available evidence suggests that cases of fraudulent fractional-reserve banking historically have been rather widespread. Again and again fractional-reserve banks have done everything possible to obfuscate the difference between genuine (that is, 100 percent-covered) money titles and imperfectly redeemable IOUs. They have chosen to clothe their IOUs in the same outer garments (account entries, printed and numbered paper slips, and so forth) as genuine money titles, and they have given their IOUs names such as *banknote* and *check* that have made them indistinguishable from money titles. Through such semantic trickery they have induced market participants to adopt a particular interpretation of fractional-reserve “banknotes” and “checks”—namely, that they are genuine titles and that the holder of such titles owns money stored in the issuing bank. However, with regard to professional economists' justification of fractional-reserve banking or lawyers and judges' vindication of this business scheme in court, the interpretation of the same “banknotes” and “checks” has been quite different: economists use terms such as *investment* and *credit* to describe money in a fractional-reserve account, and the

lawyers claim that the bank owns the money, as it owns any money that it receives as an investment.⁶

The history of banking is replete with such cases, wherein semantic trickery from the side of fractional-reserve bankers prompted upset customers to file lawsuits against their banks. Even though the legal records are clothed in the language of their times, the question of whether a certain sum of money was given to the banker for safe keeping or as an investment runs like a red thread through the history of banking.

For example, in the 1342 case *Isabetta Querini v. Bank of Marione Vendelino*, the question was whether Mrs. Querini left her money in the bank as a “regular deposit” (for safe keeping) or as an “irregular deposit” (as an investment). Querini claimed that the former was the case, whereas the bank argued that it received the money as an investment (Mueller 1997, 11–12; on similar cases in the Middle Ages, see Huerta de Soto 1998, chap. 2).

Similarly, in a grand résumé of the history of banking, Knut Wicksell (1935) surmises that because bank customers would not have wanted their deposits lent out to other people, fractional-reserve bankers had to keep such lending a secret:

So long, however, as people continued to believe that the existence of money in the banks was a necessary condition of the convertibility of the deposit certificates, these loans had to remain a profound secret. If they were discovered the bank lost the confidence of the public and was ruined, especially if the discovery was made at a time when the Government was not in a position to repay the advances. (1935, 75)

Wicksell, who endorses fractional-reserve banking, goes on to discuss the case of the Bank of Amsterdam. This bank produced two kinds of financial instruments: *receipts* (that is, genuine money titles that the bank issued “against deposits of metallic money or bullion”) and *bank money* (that is, liquid IOUs that “certified a credit at the bank” but that the public believed to be genuine money titles because the bank accepted them as cash for any payments). The Bank of Amsterdam did not care to advertise these significant differences between receipts and bank money but rather sought to maintain the public’s erroneous perception that both had the same legal status—obviously, to stimulate the issue of bank money:

The history of the Amsterdam bank is remarkable in this respect. It was founded in 1609 and was intended from the beginning to be a pure giro bank, without the right to lend any of its deposits. Gradually, however, the curious custom mentioned by Adam Smith arose, by which the bank issued against deposits of metallic money or bullion receipts on the production of

6. See the statements by pro-fractional-reserve lawyers quoted in Rothbard 1983, 93–94.

which the money could be recovered, and documents which certified a credit at the bank, *bank money* so-called, which could be used in all payments to the bank and consequently circulated between individuals as a means of payment throughout the country. The receipts, again, had to be renewed every six months and the prescribed commission paid, otherwise they lapsed and the money deposited became the property of the bank. The “bank money,” on the other hand, retained its character as a bank liability and therefore continued to circulate throughout the country. Consequently many merchants sold their deposit receipts or let them lapse and carried on equally well with “bank money” alone. Only when payment in metal became necessary, e.g. to foreign countries, were they obliged to procure valid deposit receipts, which could easily be obtained on the market at prices varying with demand and supply. The bank, again, regarded the lapsed money as its own property and considered itself free to lend it without restriction. But in this way a corresponding amount of “bank money” was converted into mere credit notes without any metallic cover. It appears to have been the obscurity in this arrangement—especially uncertainty as to the bank’s obligation to redeem in regard to the amount of “bank money” in excess of the deposit receipts still valid—rather than real insolvency which brought about its downfall in 1795, when in consequence of political events its status became known for the first time. (Wicksell 1935, 75–76)

These examples suffice to illustrate that many fractional-reserve bankers have engaged in fraudulent practices.⁷ In their contacts with actual or potential customers, such bankers have insinuated that the titles they issue do not differ substantially from genuine money titles. They also intentionally have avoided having their products assimilated to any form of credit or investment because such assimilation would imply that the title owner had given up the right to use his money for a certain length of time. Yet, in the settlement of legal disputes, they have adopted the opposite point of view and insisted that “what was really meant” by a deposit in their bank was that the bank received a credit from a customer.

The use of language per se is not at issue here. I am not claiming that words such as *banknote* or *deposit* should be used in a certain sense. Rather, the point is that a large number of fractional-reserve banks, to say the least, have used such words intentionally in two mutually exclusive senses and that this usage has concealed underlying real differences. These banks’ customers were led to believe that they had bought a financial product of type A, but in legal settlements they were told that they actually had bought a product of type B.

7. The most exhaustive treatment of such cases appears in Huerta de Soto 1998, chap. 2. An English translation is forthcoming.

It is conceivable, of course, that in many other cases fractional-reserve banking was not fraudulent because originally no awareness existed of the difference between a liquid IOU and a money title. Such intellectual confusion might have stemmed from ambiguities of language, in particular from ambiguities of the word *promise*. Thus, the traditional inscription of banknotes in the era of commodity money read something like “I *promise* to pay to the bearer of this note the amount of X ounces of gold.” If the word *promise* were taken to denote the mere intention to do something, then the “banknote” would be no money title at all, and the issuing bank might be a legitimate free-market financial institution issuing IOUs + RP. A banker can intend to redeem a note and announce that intention without thereby bringing any claim against himself into existence. By contrast, if the word *promise* on a banknote denotes the action by which a property right (in a definite quantity of money stored in the bank) is brought into existence, then the banknote is a money title, even though the money to which it gives claim does not exist. Issuing such a title involves a practical impossibility, for its very nature implies that more money titles always exist than corresponding money.⁸

The Modern Monopoly of Fractional-Reserve Banking

Ambiguities of language are an inevitable aspect of human social life, but normally they are temporary. Eventually people become aware of substantial differences hidden by identical expressions, especially if those differences have as much pecuniary impact as they have in banking. Therefore, we should expect that these issues will come to light (for example, in lawsuits) sooner or later and that henceforth either legal provisions or customer pressures will oblige the bankers always to clarify which kind of product they are offering.

The ultimate driving force in this process of clarification is the bank customers because the fractional-reserve bankers themselves have no interest in pointing out that their IOUs differ from genuine money titles, yet in times of normal business the customers have no interest in the discussion of the imperfect nature of their fractional-reserve money titles. Their position as buyers of a commodity X would be impaired if they had to confess that the money title they are offering as payment for X was not a perfect substitute for the money that the title purports to represent. They would have to fear that the sellers of X require higher prices to compensate themselves for the higher risk involved in accepting a fractional-reserve title.

Hence, only the repeated experience of bank runs and of loss of their deposits is likely to convince bank customers that their money might be safer in a 100 percent bank. This conviction in turn might induce them to force their banks to disclose precisely which type of financial instrument was on offer and to act accordingly. In the

8. According to Rothbard (1998), the word *promise* denotes a mere intention to do something, and he argues that therefore a promise cannot be the foundation of any enforceable claim. For Reinach (1989), the word *promise* describes the very social act that brings claims and obligations into existence.

history of banking, however, at least as far as the Anglo-Saxon countries are concerned, this sort of learning by bad experiences was interrupted by several disastrous nineteenth-century court decisions, which established a *de facto* monopoly for fractional-reserve banking.

In the first half of the nineteenth century, several customers of British banks filed lawsuits against their banks, claiming that by “depositing” certain sums of money they intended to entrust the banker with the safekeeping of their property. They stressed that they did not intend to invest these sums in the bank, nor did they wish to authorize the bankers to use the money as they saw fit and hence did not consent to bearing the risk of losing a part or all of their investment. The bankers held that the opposite was true. They claimed that the money “deposited” with them was an investment and that by making this investment the customers consented to bearing the risk of eventual irredeemability. Now, in accordance with the principles of the common law, the British judges had to decide whether, in the cases under consideration, the money the banks had received constituted a bailment (that is, a warehouse deposit) or an investment. In all cases, they decided that the banks had received the money as an investment.

Whether these decisions were right or wrong we cannot tell. The question of whether a certain sum of money was received for safe keeping or as an investment certainly cannot be answered on a priori grounds but must be examined in each individual case. Perhaps in all the cases decided by the British judges, the money “deposited” in the banks was in fact intended as an investment.

From the point of view of economic theory, however, the judges committed a fateful error. Indeed, they justified their decisions not by using the facts of the particular cases under consideration, but by evoking a completely unwarranted and fallacious a priori principle. They argued that all sums of money received by banks are necessarily investments. In the words of Lord Cottenham, judge of the classic case *Foley v. Hill and Others* (1848):

Money, when paid into a bank, ceases altogether to be the money of the principal; it is then the money of the banker, who is bound to an equivalent by paying a similar sum to that deposited when he is asked for it. . . . The money placed in the custody of a banker is, to all intents and purposes, the money of the banker, to do with it as he pleases; he is guilty of no breach of trust in employing it; he is not answerable to the principal if he puts it in jeopardy, if he engages in a hazardous speculation; he is not bound to keep it or deal with it as the property of his principal; but he is, of course, answerable for the amount, because he has contracted. (qtd. in Rothbard 1983, 94, who quotes from Holden 1970, 32)

This principle denies the very possibility of banking in the sense of money warehousing. Yet because money warehousing obviously is possible, Lord Cottenham’s judgment is tantamount to denying legal sanction to it. Ever since then, money ware-

housing has lacked legal protection in the Anglo-Saxon world, and the variety of banking products has been reduced accordingly.⁹ Even if a banker had offered a money warehousing service, his customers could not have enforced their claims if later he had chosen to break the terms of the contract and invest the money entrusted to him as a bailment. Clearly, then, the judgment was a grave intervention in the operation of the banking market and gave *carte blanche* for the future violation of private-property rights. Its ultimate effect was to give fractional-reserve banking a *de facto* monopoly.¹⁰

As a by-product of this monopoly, a clarifying distinction never arose between genuine money titles, fake (fractional-reserve) money titles, and IOUs + RP. Any knowledge of these differences that survived in the intuitions of the common man was destined to be stamped out when, some time later, Western states imposed the monetary institutions that would shape the modern world: the central-bank system and the ensuing transformation of gold titles into paper currencies.

Central banks protect the banking establishment by pumping additional central-bank notes (in a commodity money system) or paper money into the economy whenever bank runs threaten the fractional-reserve banks (Rothbard 1983, 1990). These inflationary measures, which save the banks at the expense of all other market participants, make the system display an artificial stability. Most important, central banks by their very existence attract the public's attention in times of financial crises. The public no longer perceives business cycles and breakdowns of the entire banking system as upshots of the fractional-reserve principle run amok under the protection of the law, but as a "macroeconomic" problem requiring action by the central-bank managers.

This confusion has been exacerbated by the state-sponsored institution of paper money, which came into being when national central banks, with the support of their governments, refused to redeem the gold titles they had issued. This breach of contract transformed the former gold titles into paper currency, a transformation that fundamentally has modified the nature of central banks and their notes. Government decrees have given the national central banks the privilege to deny note redemption to their customers and have protected these irredeemable central-bank notes by legal-tender

9. As Huerta de Soto (1998) shows, no such blunder was committed by the jurisdiction on the European continent, which was steeped in the tradition of the written Roman law. Significantly, Roman law prohibited fractional-reserve banking, and continental judges frequently outlawed it in the entire period stretching from antiquity to the nineteenth century. Then all of Europe came increasingly under the sway of Anglo-Saxon monetary thought and monetary institutions, with the ominous result that fractional-reserve banking and central banking established themselves on the continent. One important aspect of Huerta de Soto's contribution is that his history of banking explodes the "hypothetical history" of banking institutions that has become fashionable under the impact of works by Lawrence H. White and George Selgin (see, for example, Selgin 1988, chap. 1). In the latter account, fractional-reserve banking appears as the crowning event in the evolution of banking institutions. By contrast, Huerta de Soto shows that in actual history fractional-reserve banking emerged again and again as a fraudulent degeneration of deposit banking that was repressed successfully at most times and places on the European continent and that started to dominate deposit banking only as a consequence of judicial error in comparatively recent times.

10. Rothbard, quoted in the first passage, fails to notice this implication, but the point is critically important. Clearly, the present-day dominance of fractional-reserve banking has resulted not from the greater benefits of this type of business, but from its legal privilege.

laws, which suppressed all alternatives so that the central-bank notes stayed in circulation. These notes no longer were money titles because they could not be redeemed against anything else. They had become independent goods—paper money. Similarly, the central banks were no longer banks at all; they had become money producers.¹¹

This radical institutional innovation further protected the fractional-reserve banking system. Before the institution of paper money, the specter of bank runs limited monetary expansion, but with a paper-money producer in place to back them, the banks could launch a virtually unlimited expansion. From now on, the only (ultimate) limit was the threat of hyperinflation. Unfortunately, this dramatic transformation has never penetrated the public's consciousness. The reason is patent: both the central-bank notes and the central bank itself continued to exist physically without any change of their appearance (an interesting case of what might be called "economic transubstantiation").

It is therefore hardly surprising that the government-led transformation of central-bank money titles into paper money not only has prevented the self-healing forces of society from turning down fractional-reserve banking schemes, but also has spelled further confusion among financial analysts and monetary economists. Indeed, it has corrupted the very language used to describe monetary institutions because it has blurred the differences between money and money titles as well as between money producers and banks. Today, advocates of fractional-reserve banking, such as White (1999) and Selgin (2000), deny that these differences exist at all. In their eyes, banks produce money because money titles *are* money—by virtue of the mere fact that people own them for purposes of indirect exchange! This view is absurd, just as it would be absurd to say that dreaming of drinking a cool beer is the same thing as actually drinking a cool beer because the dream gives someone the same sensations.

The Economics of Political Cover-up

Government was one of the most important driving forces for the establishment of fractional-reserve banking. Government's nature is to live parasitically off the property of other people (Hoppe 1989, 1993; Rothbard 1978). Because it coerces its subjects into supporting it, it does not act responsibly, constantly adjusting its expenses to available income, but instead always relies on the possibility of squeezing a little more out of the taxpayer's pockets. Because of this unique source of income, government always has been a preferred debtor, receiving additional credits at levels of indebtedness that would exclude further credits for any private individual or group. Not surprisingly, therefore, in all of recorded history, government households have been a disastrous mess of rampant deficits. Especially in modern, democratic times, government income is never sufficient to satisfy the whims and greed of those who happen to be for a couple of years at the helm of the state (Levy and Feigenbaum 1987). When governments

11. For the implications emanating from "central-bank banks," which issue titles for money that they do not themselves produce, as compared to "central-bank paper-money producers," see Hülsmann 1996b.

try to cover these deficits by increased taxation, a direct confrontation with their subjects is unavoidable. Because no government likes to provoke such resistance, governments again and again have sought to cover their deficits by fraudulent means. In this endeavor, inflation traditionally has been one of the favorite means of cover-up (Friedman 1992, 207–13; Rothbard 1990; Sennholz 1987).

One of the easiest ways to cheat on money is to print and issue more money titles than money proper exists, which explains why kings have favored the establishment of banks issuing false money titles in order to spur “development”—that is, to channel economic development into those locations and into those forms of industry and technology the ruler favors. Kings have granted monopoly privileges to submissive bankers in exchange for the promise to support the court with credits created out of nothing—or, more precisely, created by printing titles for money that does not exist—and they have enacted legal-tender laws to keep false money titles in circulation whenever the public becomes aware that these notes, despite all appearances, are not genuine money titles.

The relationship between government and banking, however, is not a one-sided affair. It was not always a preexisting government that transformed honest bankers into frauds issuing “money titles” on a fractional-reserve basis. Often it was the bankers who succumbed to the temptation of a fraudulent business practice with obvious material advantages for the perpetrator. Looking back on the history of fractional-reserve banking, Mises stressed that “Banknotes became fiduciary media within the operation of the unhampered market economy. The begetter of credit expansion was the banker, not the authority” (1998, 788). Only later did these bankers seek a closer cooperation with government to protect their interests against honest competitors and against agitation regarding false money titles. This cooperation then invigorated the government, extending its size and scope of activities beyond what they would have been without fraudulent banking. In city-states and other communities with plebiscitarian or democratic forms of government, which facilitate political takeovers, the bankers themselves took control of the government or even set up their own.¹² Whether the bankers reinforced cooperation with government, took it over, or set up their own, the same basic scheme of political cover-up was used: the initial violation of property rights (fraudulent banking) was covered up with increased political involvement and cooperation.

In short, fraudulent banking is not necessarily the result of government activity, but sometimes is an instance of the spontaneous emergence or reinforcement of government (Hülsmann 1998, 16).¹³ The banker turned fraud who issues the first

12. This tendency seems to be very strong in the United States. See, for example, Hammond 1957; Rothbard 1994, 1995; and Tabarrok 1998. Another example is republican Florence, which the Medici family came to dominate in the fifteenth and sixteenth centuries. The house of Medici had purely commercial origins in the Medici merchant company, which “after the manner of these organisations from the time of their origin represented a combination of trade and banking” (Schevill 1949, 58). See also de Roover 1963 and Kent 1978, 71 ff.

13. For a more general discussion of this human-fall theory of the emergence of government and a comparison with the traditional conquest theory, see Hoppe 1998.

uncovered money title is in fact a “political entrepreneur.”¹⁴ He “tests the market” to discover how far he can go in violating property rights without encountering resistance. Each uncovered ticket that he can bring into circulation, each new institution that fosters the continuing circulation of uncovered tickets, is a further political discovery.

A most spectacular political discovery was the invention and imposition of monopoly central banks as lenders of last resort. Their mission was to save fractional-reserve bankers in times of “liquidity crises”—that is, to cover up the inherent ruin of their scheme whenever it was exposed in the hard light of economic reality. Yet because the original central banks themselves operated on a fractional-reserve basis, they could provide no permanent cover-up but were ever more threatened with bankruptcy the longer they stayed in existence. Therefore, the political cover-up of fractional-reserve banking has benefited immensely from a further political discovery—namely, the central bank’s privilege of violating its obligation to redeem the money titles it has issued (Hülsmann 2000c; Rothbard 1990).

Thus, all major monetary institutions of the nineteenth and twentieth centuries can be understood as elements in an extended political cover-up to save an inherently fraudulent and bankrupt business scheme from a fate that it richly deserves.

Conclusion

It is important to stress the differences between 100 percent-covered money titles, liquid IOUs, and fractional-reserve “money titles” because the obfuscation of these differences has been a crucial element in the age-old struggle to preserve and expand fractional-reserve banking. This obfuscation has reached the point of outlawing genuine money titles and of corrupting the language of monetary economists and financial analysts, and it explains the longevity of fractional-reserve banking and its manifold and close ties to government. It also explains why fractional-reserve banking by its very nature involves economic disequilibrium and therefore periodically brings about booms and busts.

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14. The essential difference between political entrepreneurship and market entrepreneurship is that the latter promotes ways of cooperation that are profitable for all parties involved, whereas the former promotes some parties’ cooperation to steal, plunder, rob, rape, and kill others. This essential difference goes unnoticed in the public-choice literature (see the foundational text by Buchanan and Tullock 1962, 19, 23–30). For criticisms of this aspect of the public-choice approach, see Block and DiLorenzo 2000; Hoppe 1993, chap. 1; and Rothbard 1997.

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Walter Block versus Bryan Caplan on Fractional Reserve Banking

by [Walter Block](#)
by Walter Block

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What appears below is a series of letters between me and Bryan Caplan. I regard Bryan as a brilliant young man, and an important contributor to libertarianism. He is, however, a *bitter* critic of all things concerning Austrian economics (I have a review forthcoming in the *Journal of Libertarian Studies* of his recent book, *The Myth of the Rational Voter: Why Democracies Choose Bad Policies*; see this for my critical comment on his gratuitous three page attack on Austrians as "market fundamentalists"). On the other hand, in my view, Caplan is fast becoming a rising star among the neo-classicals; he writes voluminously and negatively about Austrian economics. But he always spells that name correctly, and, thus, garners far more publicity for us than would otherwise be the case. I would vastly prefer that mainstream economists attack praxeologists rather than ignore us. In that way, they set up targets for us, and better enable us to break out into the society at large. Indeed, Caplan has become a sort of one-man industry in this regard, so calling forth a dozen or so rejoinders to his criticism.

On this, see the appendix 1 at the end of this article.

The present debate got started when I read that Caplan had characterized Rothbard's position on fractional reserve banking (frb) as "crazy." Further adding insult to injury, he denotes this position as too easy of a target to hit out against. Now, I suppose, I think of Milton Friedman roughly in the way that Caplan regards Rothbard. Yet, I never characterized Friedman's views as "crazy" nor as a "too easy" target. That really got in my craw, and led me to write to Caplan.

This correspondence took place during the month of October, 2008. I have edited this *very* slightly, e.g., getting rid of some of the ums and aws, on both our parts, updating the bibliography I had originally sent to Bryan and Jeff Hummel (the latter was copied on this in its entirety, but did not

contribute to it), etc.

Part I.

Walter Block wrote:

Dear Bryan and Jeff:

[Reading from here](#), I see the following:

"Yesterday at the FEE seminar, I got to hear the excellent Jeff Hummel thoroughly debunk the crazy Rothbardian view that fractional reserve banking is "fraudulent." It was fun (and funny) lecture, but the target was too easy."

I infer, then, that you guys, both of you, have published attacks on the "crazy Rothbardian view." I'm trying to put together a bibliography on both sides of this "easy" target, see below. Yet, I don't have anything from either of you on this list. Please send me the cites of your pubs debunking the Rothbard-Hoppe view that frb amounts to fraud, counterfeiting and theft.

Have you guys even read the other side of this debate?

Best regards,
Walter

See appendix 2, below, for this bibliography

Part II.

From: bcaplan@gmu.edu
Sent: Monday, October 13, 2008 10:27 AM To:
Walter Block Cc: jhummel@gguol.ggu.edu
Subject: Re: frb easy target

If I've published anything on this, I don't recall. And yes, in my misspent youth I read lots of defenses of 100% reserves. I even believed them.

If I were going to write something on this, it would be very short. I'd probably just quote P&M: — ----- No administrator is needed to prevent non-fraudulent sales; if a man simply sells what he calls "bread," it must meet the *common definition* of bread held by consumers, and not some arbitrary specification. However, if he specifies the composition on the loaf, he is liable for prosecution if he is lying.

Part III

From: bcaplan@gmu.edu
Sent: Monday, October 13, 2008 12:00 PM

To: Walter Block
Cc: jhummel@gguol.ggu.edu
Subject: Re: frb easy target

Block:

How about if a man sells a square circle to a willing buyer? How about if the contract is incompatible with private property rights, on the basis of which all contracts are supposed to lie, at least according to libertarian theory? How about if the "contract" involves two people each owning 100% of something like a gold ounce (which I take to be a logical contradiction)?

Caplan: At worst, this would make a contract void for vagueness, but not "fraudulent." The more natural response, though, is to interpret apparent contradictions in contracts charitably.

Block: May I have your permission to share this correspondence with others?

Caplan: Of course.

Part IV.

From: bcaplan@gmu.edu
Sent: Monday, October 13, 2008 1:46 PM
To: Walter Block
Cc: jhummel@gguol.ggu.edu
Subject: Re: frb easy target

Caplan:

You're just being difficult, Walter. If you asked a married couple "Who owns your car?" *many* people would say "We both own it. Fully." You can either berate them for self-contradiction, or interpret their statement charitably through the usual lens of marital property.

Block:

It is merely "vague" when two different people have full property rights over the same identical thing? I don't think so. Look, you and I can both be PART owners of a car: you use it on odd days, me on even ones. But we both (logically) cannot be FULL owners of one and the same car. That is a logical contradiction, an utter impossibility. But, yet, in frb, there are indeed two different people with FULL rights to the same thing, a given amount of money. There is simply no "charitable" way to interpret this.

Part V.

From: bcaplan@gmu.edu

Sent: Monday, October 13, 2008 2:24 PM
To: Walter Block
Cc: jhummel@gguol.ggu.edu
Subject: Re: frb easy target

Caplan:

[Sarcasm.] Then I guess it's time to invalidate millions of marriages as well as frb for their contradictory assignment of property rights.

Block:

Two people can no more FULLY own a car than there can be two people in the same identical place. Married couples typically SHARE ownership in cars they don't, they CAN'T, both fully own it.

Let me try again on this. Under libertarianism, rights cannot conflict. If there is any conflict, there is an improper specification of rights. But, if A (husband) and B (wife) each fully own a car, then there IS a conflict in rights. Each has a right to do with the car what he or she wants. Now, there may not be an ACTUAL conflict, if they both want the car used for the same purpose. But, there is still a conflict in RIGHTS. A wants the car used for washing it; B wants to take it on a trip. They both have a RIGHT to use the car for these incompatible purposes. That's frb for you: a contradiction in terms.

Part VI.

From: bcaplan@gmu.edu
Sent: Tuesday, October 14, 2008 9:56 AM
To: Walter Block
Cc: jhummel@gguol.ggu.edu|
Subject: Re: frb easy target

Caplan: I understand your point. What I'm saying is that you are taking loose ordinary language too literally. If people in a marriage — or a frb — say that both sides have "full" ownership of something, they don't literally mean that, and it is silly to claim that they are contradicting themselves. What do they really mean? Roughly speaking, whatever's customary.

Block:

I've failed to make my point as clear as I should have. Let me try again. I don't at all agree that in marriages, or in any other kind of partnerships, the two parties FULLY own the property in question. Rather, they SHARE ownership. Sometimes the husband, or partner A decides, sometimes the wife, or partner B decides, for example, how to use the car.

The only way that both parties can have FULL rights over the car is to have TWO cars. If they have only ONE car between them, which is the assumption we have been operating under, how can they each have the

right to FULLY determine the use of the car? Now, it may be, and I certainly "concede" this, that there may be no conflict in actual use of the car. A might allow B to fully determine its use. But that is NOT what I am talking about. I'm not talking about, that is, practicality, actual use, nothing like that. I am talking about RIGHTS, solely about rights. I don't know how to say this more clearly: two different people cannot have full rights to any one thing. Only one person can.

Part VII.

Block:

I don't really think that "ordinary language" really applies here. Most people, married or not, don't think much about frb, property titles, etc. My sense of ordinary language is that no one, no one at all, speaks of "full" ownership. Only people like Rothbard, Hoppe, Hülsmann and me talk about it, and people like you, Hummel, White, Selgin, deny it.

Consider this: A deposits 10 ounces of gold in B's bank; B gives A a demand deposit for these 10 ounces. B turns around and lends C 9 of these ounces, giving C a demand deposit for these 9 ounces. Thus, A and C both own full rights to these 9 ounces.

There is now a problem of over-determination or conflict in rights.

A and C both have a FULL right to these selfsame 9 ounces of gold. They are both FULL owners of these 9 ounces.

But, one of the essences of the libertarian philosophy we share is that there CANNOT be a conflict in rights. Any seeming conflict is due to a misspecification or one or the other right. Yet, here, with frb, we have a GENUINE conflict in rights. Thus, frb is incompatible with libertarianism.

Note, I am NOT talking about practicality. It might well be (given no bank run) that A and C will not ACT incompatibly with one another; that is, both will not demand that B pay them these 9 ounces, an utter impossibility. No, I am talking about RIGHTS. Right now, before any bank run, there is STILL a rights contradiction.

I can't see my way clear to agreeing with you that these thoughts of mine stem from "taking loose ordinary language too literally."

Walter Block as editor: this ends the correspondence between me and Caplan.

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Appendix 1, FRB

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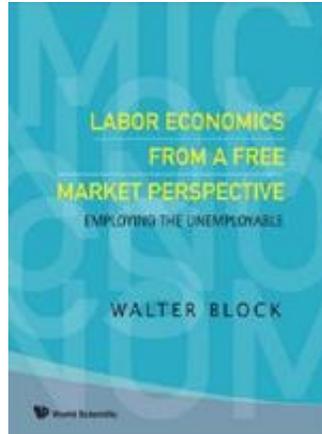
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(Editorial interjection on my part: Larry Sechrest passed away today, 10/30/08; he has contributed significantly to this bibliography. I know that all members of this debate, and, indeed, all Austro-libertarians, will join me in offering condolences to his family, and acknowledging his sterling contributions to the cause of freedom. He was a great supporter of liberty and Austrian economics. RIP.)

C. Ambivalent

Ambivalent. These are of interest but there is some question as to on which side they lie:

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Larry White and I disagree as to how to categorize these, so, at his suggestion, I'm creating a third or "ambivalent" section.

November 1, 2008

Dr. Block [send him mail] is a professor of economics at Loyola University New Orleans, and a senior fellow of the Ludwig von Mises Institute. He is the author of [Defending the Undefendable](#) and the newly released [Labor Economics From A Free Market Perspective](#).

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Is Fractional Reserve Banking Fraudulent?

by **Walter Block**

by Walter Block

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I. Prof. Eric Posner comments on the Block-Caplan debate on fractional reserve banking, [which can be found here](#).

I ran across this odd debate between Bryan Caplan and Walter Block. Here is Block's argument ("frb" means fractional reserve banking):

Consider this: A deposits 10 ounces of gold in B's bank; B gives A a demand deposit for these 10 ounces. B turns around and lends C 9 of these ounces, giving C a demand deposit for these 9 ounces. Thus, A and C both own full rights to these 9 ounces.

There is now a problem of over-determination or conflict in rights. A and C both have a FULL right to these selfsame 9 ounces of gold. They are both FULL owners of these 9 ounces.

But, one of the essences of the libertarian philosophy we share is that there CANNOT be a conflict in rights. Any seeming conflict is due to a misspecification of one or the other right. Yet, here, with frb, we have a GENUINE conflict in rights. Thus, frb is incompatible with libertarianism.

Note, I am NOT talking about practicality. It might well be (given no bank run) that A and C will not ACT incompatibly with one another; that is, both will not demand that B pay them these 9 ounces, an utter impossibility. No, I am talking about RIGHTS. Right now, before any bank run, there is STILL a rights contradiction.

Caplan just sputters. Here is the problem with Block's argument, as I think any lawyer would immediately recognize.

Block confuses property rights and contract rights. If I give the bank some cash and pay it to put this cash in a safety deposit box, then the bank can't use that cash. It can't lend it out to someone else; it can't list it as an asset on its balance sheet; it can't touch it without my permission. If the bank

were to do so, then it would have engaged in theft, and the relevant employees would go to jail. Lawyers call this transaction a bailment.

But if I deposit some cash with the bank, I don't retain my property interest. Instead, I'm making a loan to the bank and I obtain a contractual right to repayment on demand. If I demand my cash (plus interest, if any) and the bank fails to pay me, then I can sue it for breach of contract and demand expectation damages. If the bank were not a bank but just an ordinary borrower, and it was insolvent, then I have to race other creditors for its assets; otherwise, my contract right is converted into a claim in bankruptcy, and I have to share with other creditors. (Since it is a bank, I may well obtain full compensation from the government, but that is not relevant to the debate.)

If you asked the bank whether it might lend out your money, it would most certainly tell you that it would. So it is not lying to you, and there can't be fraud. Nor is there any other contradiction, incompatibility, or problem with the arrangement. Depositors take a risk that the bank will breach the contract but anyone who enters a contract takes the same risk.

Block doesn't seem to have any problem with contract rights per se, but he does have a problem with a person entering a contract that gives another person the right to demand assets that the first person might not have. But all contracts are like this. People enter contracts expecting that they will be able to transfer money, goods, or services when they are due, but everyone understands that intervening events might make the transfer impossible, impractical, or unwise. The other party obtains a right to obtain damages for breach of contract, but if every contract where the probability of nonperformance is greater than zero were considered fraudulent, we would have no economy.

The above material constitutes a statement of Professor Eric Posner's, and [can be found here](#).

II. Walter Block replies to Eric Posner

There is so much about which I disagree with Prof. Posner. Perhaps it would be best to consider Posner's views one bit at a time, and subject them to scrutiny. He offers four different paragraphs of criticism of my anti-frb argument, and I will consider them each, in order.

1. "Block confuses property rights and contract rights. If I give the bank some cash and pay it to put this cash in a safety deposit box, then the bank can't use that cash. It can't lend it out to someone else; it can't list it as an asset on its balance sheet; it can't touch it without my permission. If the bank were to do so, then it would have engaged in theft, and the relevant employees would go to jail. Lawyers call this transaction a bailment."

I agree with this statement entirely, and enthusiastically. This is precisely the claim of those of us who would legally ban fractional reserve banking. However, as can be seen below, we apply this not only to cash in a safety deposit box, but to ALL deposits with a bank.

2. "But if I deposit some cash with the bank, I don't retain my property interest. Instead, I'm making a loan to the bank and I obtain a contractual right to repayment on demand. If I demand my cash (plus interest, if any) and the bank fails to pay me, then I can sue it for breach of contract and demand expectation damages. If the bank were not a bank but just an ordinary borrower, and it was insolvent, then I have to race other creditors for its assets; otherwise, my contract right is converted into a claim in bankruptcy, and I have to share with other creditors. (Since it is a bank, I may well obtain full compensation from the government, but that is not relevant to the debate.)"

Here, I sharply disagree. A major matter of contention between the defenders and opponents of the legality of frb revolves, precisely, around the issue of whether or not a depositor, call him A, with some cash with the bank (in the form of a demand deposit), retains his property interest in those funds. I say No, and offer some reasons. One, if this is true, then, when the bank lends out money to a borrower, C, and gives him a demand deposit for (a fraction of) the amount deposited, there are not one but TWO people each of whom has a FULL ownership right in the SAME amount of money. This is a logical impossibility. Two, another way of putting the matter is that there are now more titles to property than there is property. In the numerical example mentioned above, there are now only 10 gold ounces, and there are two people, A (10) and C (9) with rights to 19 gold ounces. A manifest impossibility.

Posner, in contrast, says Yes. That is, he claims that A no longer has a right to the money he has deposited. But he offers no REASON in support of this contention. Reading in between the lines, it is easy to see what is going on here: Posner is relying on PRESENT LAW, according to which he is entirely correct. This, indeed, is the exact manner that the courts have interpreted demand deposits. However, Posner, sadly, is missing out on the context of the debate between me and Caplan. We were debating, not, what the law IS, but, rather, in sharp contrast, what the law SHOULD BE. Posner mistakenly interprets the Block-Caplan debate as over a POSITIVE statement of law, when it really involves NORMATIVE claims about the law. Yes, yes, Professor Posner's views of bankruptcy law are entirely correct as regards which creditors are first in line, but they are equally IRRELEVANT to the debate between me and Caplan.

3. "If you asked the bank whether it might lend out your money, it would most certainly tell you that it would. So it is not lying to you, and there can't be fraud. Nor is there any other contradiction, incompatibility, or problem with the arrangement. Depositors take a risk that the bank will breach the contract but anyone who enters a contract takes the same risk."

True, again, true; all too true. The bank would indeed NOT lie to a depositor about any such thing. But, lying is only sufficient for fraud, not necessary. There are other ways to commit fraud besides an outright lie. For example, it is fraudulent for a bank or anyone else to try to sell you a square circle, even if they do not lie about it. Why? Because there is no

such thing as a square circle, and, in order for a contract to be a valid one, not only must both parties agree to it (neither lies to the other), but, also, the contract must be in accordance with LOGIC (e.g., the law of non contradiction), and "sales" of square circles clearly are not compatible with that consideration. But, neither are frb contracts! They, too, are incompatible with the reality of property rights, according to which there cannot be more titles to property than there is property; there cannot be an A and a C, with rights that are incompatible with those of each other.

For our friends on the left, there are numerous and myriad contradictions of rights. For example, X's right to "public" accommodation in Y's home conflicts with the latter's right to privacy. E.g., X is a homosexual would-be renter, and Y is a Christian landlord, looking for a roommate. For the interventionists, the courts must "balance" these rights. But such rights conflicts are anathema to the libertarian. For us, if there is a seeming rights conflict, one or the other (or both) of the putative rights are not rights at all. Yet, in the case of frb, there are two people, A and C, each with rights to money of 19 units, and the bank, B, cannot possibly satisfy both. So, A and C have incompatible or conflicting rights.

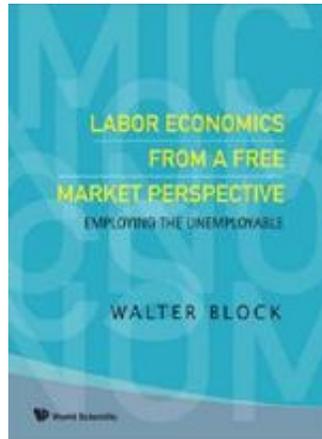
4."Block doesn't seem to have any problem with contract rights per se, but he does have a problem with a person entering a contract that gives another person the right to demand assets that the first person might not have. But all contracts are like this. People enter contracts expecting that they will be able to transfer money, goods, or services when they are due, but everyone understands that intervening events might make the transfer impossible, impractical, or unwise. The other party obtains a right to obtain damages for breach of contract, but if every contract where the probability of nonperformance is greater than zero were considered fraudulent, we would have no economy."

No, not at all. I have no "problem" with contract rights. I am a warm supporter of them. Provided, that is, that they do not constitute a logical contradiction, and are compatible with reality, e.g., underlying property rights. However, ALL contracts are certainly NOT "like this." Under frb, it is a logical impossibility for B to make good his obligations to both A and C, on demand.

Now, it is entirely possible that A and C will not call upon B to do so. But, IF they do, that is, constitute a "bank run" B will then be exposed as being unable to meet his financial obligations. In very sharp contrast, there are NO OTHER contracts quite like this in the economy. Yes, I buy 10 widgets from you for delivery today, in consideration for my promise to pay you \$10, tomorrow. A day passes, and I am unable to carry out my part of the bargain. But, it is not a LOGICAL CONTRADICTION to suppose I am unable to do so, as in the case of frb. There is all the difference in the world between being unable to fulfill a contract due to contingent circumstances, as in the widget example, and it being IMPOSSIBLE to do



so, as in the case of frb. It is not merely "intervening events" that make it a violation of the laws of logic for B, the Bank, to uphold contracts with lender A and borrower C. It is IMPOSSIBLE for B to do so, given frb.



Posner is to be congratulated for this little gem: "if every contract where the probability of nonperformance is greater than zero were considered fraudulent, we would have no economy." Beautiful. I wish I had said this. The man, truly, has a way with a word. But it is not merely, that in the case of frb, "the probability of nonperformance is greater than zero," as in the case of pretty much ALL commercial agreements. Rather it is that even before performance or non-performance becomes an issue (this issue only arises if a bank run occurs), the bank engaged in frb is

legally dead in the water. Its instantaneous debts are greater than its instantaneous assets. That is, it is bankrupt from the get-go. Under libertarian law (not, I hasten to add, present statist law), it would immediately be declared bankrupt, and forced to disgorge its property. It would not be allowed to operate for one second. The distinction between frb failure and ordinary business failure rests on the difference between a logical impossibility and a contingent failure, which need not have happened.

All if this is spelled out, clearly, in my part of the debate with Caplan. It is elaborated upon, in great detail, in the bibliography appended to that debate. Yet, more than passing curious, Posner chooses to pretty much ignore all of it in his criticisms of my anti-frb position. A strange way to come to grips with the arguments of an intellectual opponent. Hopefully, if there is to be any future round in this correspondence between me and Posner, he will attempt to come to grips with what I actually say.

November 6, 2008

Dr. Block [send him mail] is a professor of economics at Loyola University New Orleans, and a senior fellow of the Ludwig von Mises Institute. He is the author of [Defending the Undefendable](#) and the newly released [Labor Economics From A Free Market Perspective](#).

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Mises and Free Banking -- Why Is There a Debate?

|Peter Boettke|

I realize this often leads to an unproductive debate, but I am in Indianapolis for a conference on monetary economics, and we are reading Mises's *Human Action*. On p. 443, Mises makes the following argument:

"But even if the 100 percent reserve plan were to be adopted on the basis of the unadulterated gold standard, it would not entirely remove the drawbacks inherent in every kind of government interference with banking. What is needed to prevent any further credit expansion is to place the banking business under the general rules of commercial and civil laws compelling every individual and firm to fulfill all obligations in full compliance with the terms of the contract. If banks are preserved as privileged establishments subject to special legislative provisions, the tool remains that governments can use for fiscal purposes. Then every restriction imposed upon the issuance of fiduciary media depends upon the government's and the parliament's good intentions."

Mises goes on to explain that this will only work during "normal times" but any situation deemed an "emergency" will lead to "extraordinary measures" to meet fiscal demands of the state. So Mises follows up by stating quite clearly that:

"Free banking is the only method available for the prevention of the dangers inherent in credit expansion. It would, it is true, not hinder a slow credit expansion, kept within very narrow limits, on the part of cautious banks which provide the public with all the information required about their financial status. But under free banking it would be impossible for credit expansion with all its inevitable consequences to have developed into a regular -- one is tempted to say normal -- feature of the economic system. Only free banking would have rendered the market economy secure against crises and depressions."

Steve, I will hand this over to you, and I know you have pointed this out before, but why did this debate ever get started concerning Mises's ideas?

Posted by [Peter Boettke](#) on May 07, 2010 at 08:27 AM | [Permalink](#)

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I wish I had a good answer Pete. I think the best one is something like this:

There *are* passages in Mises where he argues against "fiduciary media." (I think those have to be read in context, as I argued in that series of posts last year.) Along comes Rothbard, taking on the mantle of Mises's student and interpreter, who reads his own 100% reserve position, derived, I would argue, at least as much from an ethical position as an economic one, into Mises and makes it part of the Austrian "canon" in MES and later writings. So, by transitivity, if Rothbard=100% reserves and Rothbard=Mises, then people read Mises that way too.

And "coming of age" as a libertarian in the late 70s and early 80s, (in the "Pre-White" years :)), 100% reserves WAS the Austrian alternative to central banking. I believed in it at that time. If Murray said it was the Austrian position and you could find some quotes in Mises that appeared to back it up, then it must be Mises's position as well.

In the post-White years, the story is more complicated I think and is as much about the internal politics of the Austrian movement as it is about economic theory and the actual texts in question.

To read Mises as a 100% reserves supporter is to disrespect him as a historian of economic thought and a great monetary theorist. The guy knew his shit and he understood monetary theory better than just about anyone who claims his mantle on any side today. To think he rejected the basics of monetary theory that inform the ME/FB argument is to say that he didn't understand some pretty fundamental economics.

The Rothbardian reading of Mises, both on banking issues and the related issue of the cycle, has taken many folks down a particular path of understanding that seems to prevent them from stepping back and looking at what Mises actually said.

I also think it has distorted their understanding of how banks actually work. As I read consumers/fans of Austrian economics talk about these issues on the web, I'm just stunned at the combination of self-righteous certainty and utter ignorance they display about money and banking issues. And sorry if that sounds elitist folks, but this is about basic economics that you would learn in any monetary theory or money and banking course without which you cannot make any sense out of the FB/100% reserves debate. These folks are guilty of money and banking theory malpractice.

One final point: I also think it's part of what I've called "libertarian contrarianism." There is a species of libertarian who thinks libertarian requires that one take "contrarian" positions on as many issues as possible. Think of it as a politically correct anti-political correctness. The more contrarian, the better. 100% reserves fits this mindset much better than free banking, as the latter is rooted in both mainstream monetary theory in many ways and doesn't have the ethical piece to the puzzle. The 100% reserve argument appeals to this species of libertarian and those folks just assume that if Rothbard believes it and says Mises did, then it must be true.

So I think the answer to your question Pete has everything to do with the lived history of the American Austrian movement and the way in which Rothbard's reading of Mises became canonical and still dominates among the consumers, as opposed to the producers, of Austrian economics.

MISES WIRE

Selgin Contra Horwitz and White on Mises's View of Fiduciary Media



MARCH 16, 2010 Joseph T. Salerno

Recently [Steve Horwitz](#) has adamantly defended Larry White's interpretation of Mises's attitude toward fiduciary media, an interpretation which I have [criticized](#). Steve is surprisingly uncompromising and has even gone as far as to stake Mises's reputation as a historian of economic thought and monetary theorist on the correctness of White's interpretation. Writes Steve:

To read Mises as a 100% reserves supporter is to disrespect him as a historian of economic thought and a great monetary theorist. The guy knew his shit and he understood monetary theory better than just about anyone who claims his mantle on any side today. To think he rejected the basics of monetary theory that inform the ME/FB [i.e. Monetary Equilibrium/FreeBanking] argument is to say that he didn't understand some pretty fundamental economics.

In other words, Mises is a monetary equilibrium theorist who favors the creation of fiduciary media, dang it, and if he is not, well then so much the worse for Mises's reputation as an economist. Now I suggest that before venturing out on a limb with such an irrevocable statement, it would have been wise for Steve to have consulted the book by his mentor George Selgin on *The Theory of Free Banking* (pp. 61-62). There Selgin explicitly denied that Mises either was a monetary equilibrium theorist or ever maintained that the issue of fiduciary media in any quantity would not generate a business cycle. As Selgin put it, correctly in my view,

A contrasting view of bank credit appears in the writings of several of the Austrian economists, especially Ludwig von Mises. . . . According to these writers *any* credit expansion or increase in the supply of fiduciary media—inside money [i.e., bank notes and deposits] not backed 100 percent by reserves of commodity or base money—is unwarranted. . . . In other words, all net expansion of fiduciary credit is a cause of loan market disequilibrium. It causes bank rates of interest to fall below their 'natural' levels, leading to forced savings and other trade-cycle phenomena. This contrasts with the view defended here, which holds that no ill consequences result from the issue of fiduciary media in response to a greater demand for balances of inside money. . . . However one interprets it, Mises's view of commodity [i.e., non-created] credit as the only sort of credit consistent with loan market equilibrium causes him to be critical of fractional reserve banking. . . . Indeed Mises's support for free banking is based in part on his agreement with Cernuschi who. . . believed that freedom of note issue would

automatically lead to 100 percent reserve banking.

I await with great interest Horwitz's response to Selgin, given that Selgin expressed precisely the same view that Murray Rothbard held.

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100 PERCENT RESERVE MONEY: THE SMALL CHANGE CHALLENGE

GEORGE SELGIN

Abstract: In a free market economy from which fiduciary media are excluded, economic progress will be limited, perhaps severely, by the high cost and correspondingly limited supply of small-denomination money—money that is needed to accomplish retail and other low-value exchanges. Historically, fiduciary token coins have proven to be the only practical means for addressing the small change problem, whether officially or unofficially. In particular, privately-supplied, fiduciary token coins played a crucial part in Great Britain’s Industrial Revolution, which might not have been possible without them.

INTRODUCTION

The debate on 100 percent versus fractional reserve money and banking has already taken up a large part of contemporary Austrian discussions of monetary economics. Yet, in the course of researching my book on private coinage during Great Britain’s Industrial Revolution (Selgin 2008), I became aware of an important, practical challenge to any 100 percent money scheme that has been overlooked by participants in the debate thus far. That challenge concerns the provision of small change, that is, of exchange media suitable for small payments, and especially for giving change to purchasers of retail goods. I will argue that, absent government intervention (or an unlikely degree of charity), an otherwise free-market economy in which fiduciary media are outlawed will be unable to solve what Cipolla (1956, p. 31) and Thomas

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Sargent and François Velde (2003) refer to as “the big problem of small change.” Historically, insistence upon 100 percent money, including a 100 percent reserve requirement on “token” coins like those that made up most of Great Britain’s small change during its Industrial Revolution, would have severely restricted trade and economic progress.

In making this argument, I will say relatively little concerning the claim that the fractionally-backed money substitutes or “fiduciary media” are inherently fraudulent.¹ My focus will instead be on the special difficulties that make it impractical to apply a 100 percent rule to small change. However, I will also show that a principal complaint of those who insist on the fraudulent nature of fiduciary media—the claim that it is dishonest to use the term “deposits” to designate debt obligations rather than bailments—cannot be lodged against Great Britain’s private suppliers of fiduciary or “token” coins.

For the sake of convenience, I will couch most of my arguments in terms of a gold standard, which seems to be favored by many proponents of 100 percent reserve banking. However, it should be readily apparent that the arguments apply, not only to a gold standard, but to any commodity-money arrangement.

100 PERCENT RESERVE MONEY AND LARGE PAYMENTS

Under a gold standard, the standard money unit is nothing more than a specific quantity of gold, often (though not always) embodied in a particular “full-bodied” gold coin—a coin whose face value reflects the quantity and quality of the metal it is made from.² In any advanced monetary economy, the size of individual money payments will vary dramatically. An individual payment may be worth millions of the economy’s standard gold unit, or it may be for some small fraction of that unit.

The inconvenience of carrying and conveying large quantities of coin supplies a rationale for employing redeemable paper checks or banknotes in place of gold coins themselves. Where fractional reserves are used,

¹For some of my and Lawrence White’s arguments in defense of fractional-reserve banking, see Selgin and White (1996), Selgin (2000), and White (2003, 2007a, 2007b). The last two references constitute a partial reply to De Soto’s (2006) protracted critique.

²The case of Great Britain was unusual in that, at the start of the private coinage episode, there was no gold coin corresponding to the standard £1 (or 20 shilling) unit. The gold guinea, which was the closest thing, was worth 21 shillings. The first British £1 coin, the gold sovereign, was introduced in 1816.

notes and deposit balances based on them become “fiduciary” media, their acceptance at face value depending on trust that the issuers will be capable of redeeming them on demand. In this case the bankers earn revenue by exchanging some portion of the gold deposited with them for loans and other interest-earning assets. The bankers give some of this revenue to their creditors (or those holding deposit credits at any rate), while retaining the rest to cover their costs, or as profit.

In a strict 100 percent money system, in contrast, checks are drawn on bank deposits backed by 100 percent reserves of gold, while banknotes (if they are feasible) become akin to warehouse “certificates.” According to proponents of 100 percent reserve banking, bankers providing such 100 percent backed commodity money substitutes would profit by billing their depositors for the costs involved, including gold storage or “warehousing” costs as well as the costs of printing and handling notes and checks. However, as Lawrence White (2003, p. 425) has observed, the assessment of such fees against holders of money certificates isn’t as straightforward as proponents of 100 percent reserve banking appear to suppose. The reason for this is that, if money certificates are allowed to circulate, as they must if they are to serve in place of coin itself, bankers will be unable to keep track of their holders so as to be able to charge them appropriate pro-rata shares of money storage and related fees.

Insofar as only larger payments are concerned, White’s argument doesn’t necessarily point to the utter impracticality of 100 percent reserves. After all, full-bodied gold coins themselves can always be employed in place of paper certificates, and their use will not be all that burdensome in transactions requiring a small number of such coins only. For many other transactions, either bullion or checks and other devices for the direct transfer of deposit credits can be resorted to. Moreover, even circulating certificates may still play a part, for when such certificates are competitively issued, they are unlikely to circulate very long before being re-deposited³; and the larger they are the lower will be the costs of producing and handling them as a percentage of their nominal worth.⁴ Consequently, the original drawer of a certificate may be willing to incur the full costs connected to its use, including the expected cost

³In historic, free-banking arrangements, competitively-issued banknotes typically remained in circulation for between one and two weeks before being re-deposited, usually with rival banks that would then return them to their sources for payment. The notes of a monopoly bank of issue, in contrast, tend to be re-issued by non-issuing banks that receive them on deposit unless they are damaged or worn.

⁴The cost of producing the most recent and technologically sophisticated Federal Reserve note is about 6 cents.

of storing the certificates' gold backing while it remains outstanding, even though he or she may retain the certificate itself—and hence, retain ownership of deposited gold—for only a fraction of the certificates' circulation period. One might argue in this case that, although the situation is one in which externalities are at play, the externalities may be unimportant, if not “irrelevant,” in the sense that attempts to correct them, by abandoning the 100 percent reserve rule or otherwise, might not result in any very substantial reduction in the social or overall transactions costs of exchange, and so might not entail any substantial gain in economic activity or welfare.

This is not to say that such an argument would be correct, of course: it is merely to observe that it is not *obviously* incorrect.

THE SMALL CHANGE CHALLENGE

Providing for small payments, however, poses challenges to proponents of 100 percent money beyond those pointed out by White—challenges that suggest that a 100 percent rule would almost certainly result in a substantial increase the transactions costs of exchange, and a corresponding reduction in economic activity and associated gains. These effects, it bears observing, are distinct from those stemming from the reduction in real savings, intermediation, and investment that must accompany any switch from fractional to 100 percent reserves. The latter reduction itself supplies important grounds for questioning the desirability of a 100 percent reserve rule. But having discussed this point elsewhere (Selgin 2007), I set it aside here in order to concentrate on the particular challenges posed by smaller payments.

The use of paper notes, whether money certificates or fractionally-backed, as small change is generally not economical, given the values involved and the relatively rapid turnover of small-value notes, which causes them to wear out rapidly.⁵ Allowing for this, a market economy faces three alternatives for supplying itself with small change. It can (1) strike full-bodied coins using gold alone, with lighter coins for low denominations; (2) strike full-bodied coins using both gold and a second, less valuable metal, with coins of the less valuable metal serving as small change; and (3) mint “token” coins, that is, metallic equivalents of banknotes,

⁵According to Neil Carothers (1930, pp. 162–63), the fractional notes issued in response to the severe coin shortage that broke out at the onset of the U.S. Civil War “wore out so rapidly that the expenses of issue and reprinting were greater than the interest return to the issuing bank.” Of course the loss would have been greater still had the notes been warehouse certificates rather than fiduciary media.

using very low value metals, and commanding their face values owing solely to their free convertibility into gold.

In making his case for a 100 percent gold dollar, Murray Rothbard seems to have the first option in mind when he observes (1974) that, while “ingots or bars of [gold] bullion” might serve in the largest transactions, “[f]or smaller, everyday transactions, the gold would be divided into . . . coins, hardened by the slight infusion of an alloy to prevent abrasion.” Rothbard overlooks the fact that, to be of sufficiently low value to serve in many “everyday” payments, full-bodied gold coins would have to be so small as to be both difficult to handle and easily lost. In Great Britain, for example, quarter-guinea gold coins, worth five and a quarter shillings, or 64 pence, were tried twice—in 1718 and again in 1762—but were discontinued in each case owing to public complaints concerning their small size. Yet a quarter guinea, being the equivalent of a week’s wages for the average worker in those days, was hardly very small change at the time! That British authorities never seriously contemplated striking full-bodied gold coins to represent still smaller values, such as shillings or pennies (let alone halfpennies or farthings), goes without saying.⁶

It was owing to the impracticality of minting small change from gold itself that monetary authorities in all past gold standard arrangements turned to striking coins from less valuable metals. Of the options they faced for doing so, that of employing *full bodied* coins of two or more distinct metals proved to have its own insurmountable drawbacks. This option has two different variants. The more familiar one, bimetallism, involves defining the economy’s monetary unit in terms of particular amounts of two metals simultaneously. By retaining a single monetary unit, this approach seeks to

⁶Reliance on gold coins for small change today, with gold approaching \$1,000 an ounce, would of course be more impractical than ever. Historical private gold mints in the U.S. never produced anything less than a \$5 coin, weighing approximately one quarter of an ounce.

Under a silver standard, full-bodied silver coins would of course be practical for denominations considerably smaller than those for which gold coin might serve. Yet here as well the need for still smaller change would go unsatisfied. Thus when, in 1464 (when Great Britain was still on a silver standard), the Royal Mint tried to issue silver farthings that weighed only three troy grains each, the farthings were “lost almost as fast as they were coined” (Snelling 1766, preface).

A referee observes that full-bodied gold coins representing smaller denomination coins could be made conveniently large by alloying the gold with generous amounts of copper or other base metal. But this solution is, for metallurgical reasons, not generally practical. For example, coins of less than 18 carat (75 percent) gold are prone to tarnishing and chemical attack.

avoid the need for any fluctuating internal monetary exchange rate, and the additional calculation burdens such a rate poses.

Bimetallism tends, however, to give play to Gresham's Law whenever the exchange rate implicit in the mint (coining) rates for the two metals differs from the metals' market rate of exchange. It has for this reason generally been condemned by monetary economists, including advocates of 100 percent money. Murray Rothbard observes, for example (1962, pp. 783–84), that “No country . . . can maintain a bimetallic system in practice, since one money will always [*sic*] be undervalued in terms of the other. The overvalued always displaces the other from circulation.” In a gold-silver bimetallic system, if silver is undervalued, no one will bring silver bullion to the mint to be coined, while outstanding coins made from it will be melted or shortened,⁷ making unimpaired small change scarce.

Gresham's Law can be avoided, despite having full bodied coins of multiple metals, by allowing each metal to define a distinct monetary unit, so that instead of having one *de facto* monetary standard the economy has two or more “parallel” standards. With parallel standards coins of different metals trade at freely-fluctuating market exchange rates, so there's no risk that those of either metal will be worth less if employed as money than if melted into bullion. Although he condemns bimetallism Rothbard (1974, n. 9) sees nothing wrong with parallel standards, which he regards as being both workable and more consistent with a truly free market approach to money; and although he never says so explicitly, Rothbard may have regarded parallel standards as satisfactory means for addressing the small change problem.

But while a “parallel” small change system would indeed be immune to Gresham's Law, such a system would involve high costs of transacting, for change would have to be made using coins of a standard money different from that on which the economy's principle exchange media would be based. If one were to imagine that shopkeepers in the U.S. today were obliged to make change with euro coins, one would have some idea of the costs in question, and of the nuisance they would entail. Indeed, many nations, the U.S. among them, have at some point in their histories had to rely on various foreign coins for some or all of their payments, and it was problems posed by the ensuing, non-par exchanges that supplied the greatest impetus for efforts to establish complete and uniform domestic coinage systems. The American colonists, for example, were forced to rely on Spanish silver coins for routine payments, while keeping accounts in English monetary units; and a

⁷That is, reduced in weight through shaving, clipping, or chemical abrasion.

desire to escape the inconveniences of this state of affairs was among the chief motivations behind the post-revolutionary drive to establish a national coinage (cf. Carothers 1930, pp. 33–34).

The third and final way of supplying small change, using token coins, is the one employed by all modern economies. It also has its difficulties. Because token coins cost much less to produce than their face values, they can prove tempting targets for counterfeiters—though generally less tempting ones than banknotes, which bear still higher ratios of nominal value to material production cost. Also, to prevent them from falling to a discount relative to their face values, issuers of token coins must take steps to assure that the supply of such coins does not exceed the demand for them as small change. In practice this can be done either through deliberate regulation or by making the coins freely convertible into standard money. Of the two approaches the last, though less common, is preferable because it provides for the automatic return of excess or worn coins. Finally, care must be taken to assure that the metal from which token coins are struck does not rise in value to a point at which the coins lose their token status, becoming instead worth more as scrap than as money. Here also free convertibility is advantageous, as it allows for ongoing renewal of the stock of token coinage, with associated opportunities for adjusting their metallic composition.

Although it took centuries for governments to tackle the difficulties involved in establishing relatively successful token coinage systems, and although many modern token coinage systems are to some degree—if not seriously—flawed, the token coin solution has proven far more practical than small-change systems based on full-bodied coins. Indeed, governments resorted to it in most instances only after having tried without success to rely exclusively on full-bodied money. “[T]oken coinage,” Mises observes (1980, p. 70),

is always the result of attempts to remedy deficiencies in the existing monetary system. It is those technical difficulties, that hinder the subdivision of the monetary unit into small coins, that have led, after all sorts of unsuccessful attempts, to the solution of the problem that we adopt nowadays.

Token coinage, finally, has always been the preferred *private-market* solution to the small change problem: in the past, when governments have failed to supply their citizens with adequate small change, private entrepreneurs have often stepped in to fill the breach, and have done so in every known instance by issuing some sort of token money. The British case explored in my book is exceptional only because the shortage of official coin was so severe, because private coinage was allowed to go on to the point of eclipsing official coinage, and because the resulting private

coinage regime was so strikingly superior to previous small-change systems.

THE HEAVY BURDEN OF A 100 PERCENT RESERVE TOKEN COINAGE

That the token coinage alternative works best presents a challenge to proponents of 100 percent money. The challenge arises because in practice private token coins must also be *fiduciary* coins. That is, they must be issued on a fractional-reserve basis in order to be economically viable. A strict 100 percent rule would add substantially to the cost of issuing of token coins, limiting an economy subject to it to a substantially lowered volume of exchange activity.

The cost of producing a token coin, including that of its constituent metal, though it must always be less than the coin's face value if the tokens are to avoid the fate of being melted, often represents a substantial share of that face value. Indeed, governments frequently find it difficult to keep the production costs of their lowest value coins from exceeding those coins' face value. In the U.S. as this is being written (autumn 2008), for instance, nickels cost about 7.7 cents each to produce, whilst pennies cost 1.26 cents.⁸

Bearing this in mind, consider the hurdle faced by a retailer wishing to employ his own tokens as small change in an economy committed to 100 percent money. Suppose that the cost of one dollar's worth of custom-made token coins, including that of their constituent metal, is 50 cents.⁹ Under the 100 percent rule, not only must the retailer bear this cost, but he (or his redemption agent) must keep on hand gold reserves equal to the full nominal value of any tokens placed into circulation. Finally, the retailer must pay any fees charged for keeping his gold under safe storage. Even if, following White (2003, p. 426) we suppose that the latter fees are as modest as that charged by modern gold storage services, that is, one percent per annum, it will cost our retailer \$1.51 to place just one-dollar's worth of tokens into circulation for one year.

⁸Congress recently (May 2008) passed legislation (H.R. 5512) to authorize production of steel nickels and pennies, which would reduce their estimated cost of pennies to .7 cents.

⁹I base this figure on the British experience, in which a typical, private, copper halfpenny cost just under a farthing to produce, inclusive of the cost of the copper. The cost of private silver tokens was likewise close to half their face value. The relationship reflected the need to maintain token coins' cost of production at levels which, in conjunction with resort to anti-counterfeiting devices, would serve to deter would-be counterfeiters.

Suppose, for example, that the economy's smallest practical gold coin is worth \$5 and that the retailer's profit (net of interest) on a \$6 pint of brandy would be just 6 cents—a one percent margin—if he received exact change for the bottle.¹⁰ If instead he is handed a \$10 gold coin, and elects to give four new one-dollar tokens for it, his immediate profit *net* of the full cost of the small change will be $\$0.06 - \2.00 or *minus* \$1.94, *not* deducting the costs of gold storage.

To allow for the fact that the retailer's tokens may be returned for redemption, so that he can either reissue them or sell them as scrap, let us assume that they have a useful life of 5 years, after which they can be scrapped for one-half their initial cost, and that the average token is redeemed four times a year.¹¹ In that case, the tokens will suffice to allow the retailer to make change enough to sell four pints of brandy in a year, and his annual profit from the sales net of his small change cost will, using straight line depreciation, be $\$0.24 - \$0.24 = \$0$ (four cents being the annual cost of gold storage in this case). Evidently the retailer will be tempted in this and like cases to let customers bear the burden of coming up with exact change, or will resist doing business with them at all. Retail trade will consequently suffer, if it isn't altogether stifled, by the high cost and resulting scarcity of small change.

Now assume instead that our retailer backs his tokens with fractional reserves of gold only, and that he is therefore able to realize a 4 percent return on any gold he obtains in exchange for them, instead of having to pay a storage fee for that gold. In that case, his profit will be $\$0.24 - \$0.20 + \$0.16 = \0.20 , which, though still less than he would make were he not called upon to pay for his own change, is still positive. The lower opportunity cost of providing small change translates into a correspondingly higher level of exchange activity.

Of course, if the cost of token coins, instead of being borne entirely by the coins' issuers, could be spread among all the coins' users according to the length of time coins stayed among their holdings, private issuance of 100 percent reserve token coins would not be so unprofitable, although it would still be costly compared to a fiduciary coinage alternative. But the tracking and billing of token coin holders presents a challenge far more daunting even than that, considered by White, of tracking and billing holders of money certificates. Furthermore, because

¹⁰In the U.S. today, large retail firms often operate on profit margins of close to 1 percent. Margins for smaller retailers tend to be somewhat higher.

¹¹Because tokens can only be redeemed in minimal amounts equal to the smallest gold coin—in this example, \$5—their circulation periods tend to be longer than those of larger-value competitively-issued banknotes or money certificates.

the cost of producing tokens represents a far larger portion of their value than that of producing larger denomination certificates, it is far less likely that anyone will be willing to bear more than their proper share of that cost.

The arguments just considered help to account for the fact that actual token coins have *always* been fiduciary media, that is, media backed by fractional rather than 100 percent reserves of standard money.¹² It is for this reason that Mises—who, as we have seen, regarded token coinage as the only practical means for addressing the small change problem—also insists on classifying such coins as “credit instruments” (1980, p. 72 n).

THE BRITISH EXPERIENCE

Great Britain’s experience demonstrates, furthermore, that fiduciary token coins, far from being a consequence of government interference with monetary freedom, were a natural outgrowth of such freedom.

In the first decades of the Industrial Revolution, Great Britain was confronted by a very serious small change shortage. The bimetallic legislation then in effect undervalued silver, so that few if any silver coins were minted, while those already in circulation tended either to be melted into bullion or to be very badly impaired. Although the Royal Mint also issued copper halfpennies and farthings that were, in effect (if not in law) mere tokens, the quality of those coins was such that they were aggressively counterfeited. Also, regal copper coins could be obtained only from the Mint itself, that is, at the Tower of London, where purchasers were asked to pay the coins’ full face value, no deduction being made for transport costs. Finally, copper coins weren’t redeemable, so persons holding excess quantities had no convenient way to unburden themselves of them. Together these arrangements had the effect of making copper coin scarce in country towns and manufacturing districts, where it was desperately needed for making change and paying wages, even when unwanted stocks of were accumulating in breweries and other wholesale businesses in London. Responding to complaints from such wholesalers as well as to the proliferation of lightweight counterfeit coppers (which were said to

¹²The statement uses the term “fiduciary media” in the Austrian sense meaning media that are neither full-bodied coins nor IOUs fully backed by standard metal. Confusingly, some writers (e.g., Carothers 1930) use the term “fiduciary coinage” to refer to what I call “token coinage,” without reference to the nature of assets backing the coins in question. This practice no doubt reflects those writers’ (historically justified) assumption that tokens are never issued except on a fractional-reserve basis.

have been made by recycling full weight regal coins), the Royal Mint suspended copper coinage altogether for a generation beginning in 1775, leaving British factory owners and retailers more desperate than ever for small change.

It was owing to these circumstances, and to the British government's refusal to respond to their pleas for coinage reform, that British businessmen, starting in 1787 with Thomas Williams (who owned what was then the world's biggest copper mine, in Wales), took to minting and issuing their own token coins. Between 1787 and 1797, when the government finally attempted to reform its own token coinage, a score of private mints had supplied several hundred private coin issuers with some 600 tons of custom made copper pennies and halfpennies, which was more copper coin than the Royal Mint had issued over the course of the previous half century. By 1811 change was again in very short supply, the government's reform efforts having proven inadequate. Consequently, another round of private coinage took place, this time involving silver as well as copper tokens. That round ended several years later, when the government decided to outlaw private coins. My book documents at length both the crucial role private tokens played in allowing normal business transactions to proceed and the hardship caused by the decision to suppress them.

The facts of this episode germane to the particular issue at hand are, first, that Great Britain's private tokens were, like official ones then and since, fiduciary media. Their many suppliers simply could not have afforded to purchase and issue them otherwise. Indeed, most private token issuers profited very little, if at all, from their involvement in token coinage despite not having kept to 100 percent reserves. For example, when private silver tokens were outlawed, one of the larger issuers of 19th-century silver tokens, the bankers Garratt & Co., of Bristol, took a reckoning by which the firm concluded that it had lost £5,588 on 640,000 (or £32,000 worth of) shilling tokens it had issued. The losses were, to be sure, aggravated by the firm's having been compelled to redeem many of its tokens prematurely. But the point is that its "float" earnings up to the point when tokens were outlawed were far from substantial, falling well-short of its costs of acquiring and administering its token issues.

Second, the fiduciary status of Great Britain's private tokens was not enforced or encouraged by any legislation. On the contrary, private tokens, far from having had any legal standing, were technically illegal, having been banned by a still-extant royal proclamation of 1672. Consequently, the manner in which tokens were issued, redeemed, and backed was left entirely in the hands of private market participants. The acceptance of

private tokens was likewise entirely voluntary. Unlike official coins, they were not legal tender even for the smallest payments, so that people were free to refuse them, whereas they could not legally refuse official or “regal” halfpennies in transactions of six pence or less. Yet private tokens were so generally preferred to regal copper coins that, despite the latter coins’ limited legal tender status, they were frequently refused altogether, or were accepted only at rates roughly corresponding to their metallic worth.

Did the seemingly voluntary nature of private token transactions mask some underlying fraud perpetuated against the persons to whom they were issued? Although I don’t intend here to re-join the general debate concerning whether fiduciary media are inherently fraudulent, the manner in which most private tokens were placed into circulation makes at least one of the “fraud” arguments put forward by opponents of fiduciary media quite inapplicable to them. Tokens were typically issued by factory owners and retailers, not in exchange for “deposits” of standard money, but to workers as part of their wages or to shoppers as change. In all such instances the matter of the supposedly misleading use of the term “deposits” to stand, not for an actual bailment of gold, but for a debt incurred, did not arise. A retail customer proffering a \$10 gold coin in payment and receiving \$4 in token coins as change, or a worker offered similar tokens as part of his wages, was not making a “deposit” of gold in any sense of the term, and was not given any reason for supposing that \$4 in gold would be put into safe storage on his behalf. Token issuers merely pledged to redeem their tokens on demand for their face value in standard money. Typically, this pledge was indicated on the tokens themselves. For example, the reverses of the first British private tokens, the “Druid” pennies of the Parys Mine Company in Anglesea, Wales, bore a legend declaring “We Promise to Pay the Bearer One Penny.” The legend was continued on the coins’ edges: “On Demand, in London, Liverpool, or Anglesea.” Only a very obtuse shopper or worker, or one prone to great flights of fancy, could, upon being offered such tokens as change or in payment of wages, have construed the pledges they bore as indicating any sort of bailment.

CONCLUSION

The small-change challenge to 100 percent money is, of course, only a challenge insofar as coins of some sort are needed to effect small payments. Point-of-sale electronic transfer opportunities have already considerably reduced this need compared to just a few decades ago, and may one day dispense with it entirely.

The brunt of my “challenge” to proponents of 100 percent money concerns what strict adherence to their preferred regime would have meant in the past. I have tried to show that it would have had the effect of severely discouraging, and perhaps preventing altogether, the private issuance of token coins, and so would have ruled-out any free-market solution to the short-change shortages that plagued Great Britain and other nations throughout past centuries. The change shortages Great Britain experienced during the early years of its Industrial Revolution posed such a serious burden to factory owners and retailers that they threatened to bring that Revolution to a premature end. The modern market economy as we understand it was able to emerge when it did only because British factory owners and retailers took the initiative of making and issuing their own fiduciary token coins.

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SHORT CHANGING 100 PERCENT RESERVES

MARK THORNTON

ABSTRACT: Selgin (2009) offers a challenge to 100 percent reserve banking by noting that small change would be unprofitable with 100 percent reserve money. This minor challenge fails firstly because 100 percent reserve banking does not require 100 percent reserve money, only market determined money. Small change is shown here to not be a problem in the free market. Evidence from Richard Cantillon (1730) suggests that in the absence of government coercion, small change was not a problem.

KEYWORDS: money, fractional reserve banking, fiduciary media

JEL CLASSIFICATION: E40, E42, B11

George Selgin (2009) offers a challenge to 100 percent reserve money with the problem of small change. He observes that transaction costs will rise and economic activity will be reduced if

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there is a limited amount of small change. He considers token coins¹ to be the preferable solution among the many possible solutions. However, token coins are considered fiduciary media and therefore could represent a violation of the 100 percent reserves. Requiring 100 percent reserves for the token coins would make the issuing of tokens costly and unprofitable. Therefore the 100 percent reserve doctrine would limit small change, hamper exchange and leave economic opportunities foregone.

This challenge, while new and creative, falters on several grounds. Here the focus will be on the free market economy where small change or token money is *a* medium of exchange that need not be backed by reserves even though it is deficient in its intrinsic value of metal relative to *the* medium of exchange.² However, on a more basic level Selgin's association of 100 percent reserve money and 100 percent reserve banking is incorrect. Advocates of 100 percent reserve banking call for 100 percent reserves in banking and for market-determined money, not 100 percent reserve money. The economic problems associated with fractional reserve banking are not related to market-based money, and neither is there an issue of fraud, other than the ordinary sort. Nonetheless, it is still worthwhile to provide a full response to challenge of small change.

Small change has been a technical challenge for coin-based government controlled monetary systems, but we can be reasonably confident that a market-based system would be able to deal with the problem. To that end, evidence will be presented from Richard Cantillon, circa 1730, which demonstrates that the market can effectively handle the problem of small change and do so in a manner that neither violates economic principles nor introduce the problem of fraud.

¹ The type of token coin we are discussing is one for which the value of the metal in the coin "often represents a substantial share of that face value." True token coins with little intrinsic value would be like traveler's checks or money market mutual funds, and would not be considered money.

² Mises (1912, p. 70) discussed token coins in terms of a government dominated monetary system. Here token coins are used to overcome technical difficulties, but what he is discussing is essentially the absence of a market process to solve such problems and all the bureaucratic bungling that was necessary to achieve a tolerable situation.

Selgin's challenge is based on the gold standard where coins must be denominated, exchanged, and redeemed at par. The problem of not being able to mint gold into small enough sized coins would negatively impact such an economy, even though historically people in non-monetized sectors of the economy resorted to barter, book entry accounting, and other methods. Selgin argues that the use of token coins for small change would require that mints hold 100 percent reserves against the coins they issue. Of course, as the author admits, the challenge would be altogether immaterial in the contemporary economy of checks, debit cards and other forms of electronic transactions, and neither would it apply to pre-industrial bimetallism, wherein all coins circulated on the basis of the market value of the metal content and prices were set in terms of an index coin or medium of account.³ However, let us proceed with Selgin's historical challenge.

The gold standard is not the best foundation for the challenge because it was the result of bimetallism and Gresham's Law. Neither advocates of 100 percent reserve banking nor free banking envision their systems as based on bimetallism, wherein government fixes a rigid exchange ratio between two metal monies. Therefore, it is *not* "readily apparent that the arguments apply, not only to a gold standard, but to any commodity-money arrangement," as Selgin suggests (p. 4). Silver was the most common form of money in modern times, which was supplemented with gold for large transactions and balances of international payments; and by copper-based coins for small transactions. In other words, parallel monetary standards for specific purposes.

Parallel monetary systems can be connected through floating exchange rates to avoid the problems of bimetallism and answer Selgin's challenge. However, it would also be possible to have a floating exchange rate between gold and silver, but a notionally fixed exchange rate between the silver and copper coins, where copper coins were nominally denominated as a certain fraction of a silver coin. Such a system would be immune to Gresham's law and would not involve the "high cost of exchange" that Selgin imagines, if "shopkeepers in the U.S. today were *obliged* to make change with euro coins." (p. 8, emphasis added). The key here is

³ Weber (2009).

the word “obliged,” which insinuates that traders would be forced or coerced into accepting any amount of any particular coin. Of course, no one would be obligated to accept unlimited amounts of small change in a free market or make change in mandated alternative foreign currencies.

Also, when discussing token coins, Selgin refers to “free convertibility,” implying that those who possess inferior coins can forcibly exchange them for preferred coins. This is at the heart of the challenge of small change. Selgin claims that token coins must be fiduciary media (p. 10), and therefore the mint would be required to hold reserves against these token coins *and* incur the high cost of producing the tokens, because the cost of the metal in such coins “represents a substantial share of that face value.” The challenge that Selgin has proposed is a real one under his given conditions, although the magnitude of this problem is probably small even in an economy that does not have electronic means of payment.⁴ His challenge essentially *short changes* 100 percent reserve banking, because people are not actually required to accept these coins, make change in them, or redeem them. In certain situations they will either refuse them altogether or discount their value accordingly, as was the case throughout the long history of money.⁵

The reason Selgin’s challenge fails is that token coins would not have legal tender status and there would be no free convertibility. Individuals would not be obliged to accept them or to make change in them. Token coins are simply coins made from less costly metals and are overvalued in terms of metal content compared to their more valuable counterparts (e.g., the copper in 100 pennies has a melt value of, say, 63 percent of a silver dollar). In a free market economy, the value of the metal in the overvalued coins, the qualities of the coins issued, and the competitively determined cost of production would all factor in to create flexible and harmonious conditions between these two mediums of exchange.

⁴ In the United States in 1963, this would have required that more than \$40 million in gold would have been placed in reserve against the number of pennies and nickels issued that year.

⁵ Whether or not token coins would be freely convertible on the free market is an open question. Companies would likely have some features of convertibility for their own coins.

The size, weight, and purity of small change could change over time according to market conditions. Competition would push up the copper content towards the difference between minting costs and the corresponding value of silver (e.g., minting costs of 100 pennies would be close to 37 cents) so that in terms of opportunity cost they would be near par with silver coins.⁶

The whole challenge basically rests on the assumption of force and coercion. The medium of exchange (i.e., silver) is the most commonly accepted medium of exchange, but this does not necessarily extend to other media of exchange (i.e., copper, nickel, etc.). People are not required to accept such coins in a free market economy, and indeed are not even compelled to accept them in some economies hampered by legal tender laws. The challenge would require a par value law that would require a face value with legal tender and convertibility requirements.⁷

Of course people will accept *some* small coins made from less valuable metals which are overvalued, but they need not accept large numbers of such coins unless it is in their interest to do so. For example, an automobile dealer might accept \$10,000 in pennies for an automobile that he was already prepared to discount down to \$6,000. And for the smallest transactions, the price and size of the good can be adjusted to make the acceptance of a single “token” coin profitable (e.g., penny candy and nickel cigars). Naturally, merchants will readily accept some amount of these overvalued coins in the natural course of their business because they need them to make change in subsequent transactions, but they need not accept large quantities of token coins.

Thus, the problem of small change can be solved by the market. The higher minting costs of small change, such as pennies, and the relatively low value of the metal in the coins is sustained in the market for the purpose for which they were intended—small

⁶ In a similar vein, the premium on small gold bullion coins is more than five times greater than large gold coins. Rothbard (2009, pp. 1144–46) shows that there are no special cases or issues such as counterfeiting or standardization with the competitive private minting of coins. He also discusses the benefits of private coinage in section 7 of *What Has Government Done to Our Money?*

⁷ If par value laws existed, then people would be required to accept overvalued small change.

change.⁸ This type of arrangement is neither new nor unique; it is actually ancient and ubiquitous. Such coins are often referred to as billon, which is derived from the Latin *billo*, which means a coin that is made mostly of copper. Such coins date back to at least ancient Greece.⁹

Even with all the chaos of government-managed monetary systems, there have been those who have stumbled onto ideas that mimic the market. For example, medieval jurists held that one should not be allowed to make a repayment in different coins unless one's creditor gave his permission. This would prevent repayment in overvalued token coins. Renaissance law changed this to make all debts equivalent and payable in pennies. In the wake of this change, laws were passed that limited the legal tender status of small change. In particular, these laws limited the amount of small change that could be used to extinguish a debt (Sargent and Velde, 2002, p. 114).

Cantillon (part 3, chapter 4, retranslated from the original French, with *emphasis* and notation in brackets added) addressed Selgin's challenge circa 1730 when he wrote about how such coinage worked. Notice that all the issues raised in Selgin's challenge are addressed, including the profitability of mints and the fact that the coins are easily used in small transactions, but not necessarily in large ones or in foreign exchange.

Today, because copper is only used as money for small purchases, whether alloyed with carbon to make brass as in England, or with a small portion of silver as in France and Germany, it is generally rated in the proportion of 40 to 1, though the market price of copper to that of silver is ordinarily at 80 or 100 to 1. *The reason is that the cost of coining is generally deducted from the weight of the copper. When there is not too much of this small money in circulation for small transactions in the state, coins of copper or copper and alloy are used without difficulty in spite of their defect in intrinsic value.*¹⁰ However, when being used for exchanges with a foreign country,

⁸ We should expect the value of copper and the cost of minting to approach 1/100th of a dollar.

⁹ The word *bullion*, which refers to ingots of metal, seems to have been derived at least in part from *billon*.

¹⁰ Here Cantillon used "intrinsic value" to refer to the metal content of the coin, but in all other instances the term refers to opportunity cost. Notice that the opportunity

they will only be taken for the weight of the copper and the silver alloy. Even in states where there is too much copper in circulation for small transactions, when the greed or ignorance of the governors mandate laws that require a certain amount be received in large payments [i.e., par value laws], it is unwillingly accepted. *Small coins lose a certain percentage when traded for silver*, as is the case with billon coins and arditas in Spain, or when they are used for large payments. *Yet small coins can always be used without difficulty for small purchases because the value of the payments is small and therefore the loss is even smaller. This is why they are accepted without difficulty, and why copper is exchanged for small silver coins above the weight and intrinsic value of copper within a state, but not with other states, because each state has the wherewithal to carry on its small exchanges with its own copper coins.*

But what if one gets stuck with a bunch of billon or arditas coins, perhaps as a merchant or as the wholesaler to a group of merchants? Selgin noted in his book *Good Money* that small change tended to pile up in the hands of breweries (2008, p. 23). This occurred because customers of alehouses often paid for their beer with small change and then the alehouses paid for the kegs they purchased from the brewery with that same small change. The alehouse owner and brewer could in turn pay his labor with the small coins, but the brewer could not generally use them for the large purchases of materials, such as kegs and grain. In order to accomplish these trades, the wholesaler would have to sell copper coins for silver coins at a discount or pay for transactions with copper coins at a discount.¹¹ Would this present a problem and suppress certain wholesale and retail businesses?

Cantillon explained that brewers and other entrepreneurs collected up small change to make large purchases, and that trading with other merchants could be accomplished using account books and market prices. "An alehouse keeper collects by sols and livres the sums he pays to the brewer, who uses them to pay for all the grain and materials he buys from the country."¹² Cantillon (part 2,

cost of token coins is proportional to other coins because it includes the costs of the metal and the minting of the coins.

¹¹ In this manner businesses would have been encouraged to return worn coins to the mint for reminting.

¹² One livre was equal to twenty sols, and sols were equal to twelve deniers, which was roughly equivalent to the British penny.

chapter 9) explained that the brewery business in London could be highly profitable,¹³ but also highly risky because they depended on the profitability of the alehouses to which they lent kegs of beer.

It is customary for the London brewers to lend a few barrels of beer to the keepers of ale-houses, and when these pay for the first barrels to continue to lend them more. If these ale-houses do a brisk business the brewers sometimes make a profit of 500 per cent per annum; and I have heard that the big brewers grow rich when no more than half the ale-houses go bankrupt upon them in the course of the year.

All the merchants in a state are in the habit of lending merchandise or produce for a time to retailers, and proportion the rate of their profit or interest to that of their risk. This risk is always great because of the high proportion of the borrower's upkeep to the loan. For if the borrower or retailer have not a quick turnover in small business he will quickly go to ruin and will spend all he has borrowed on his own subsistence and will therefore be forced into bankruptcy.

Cantillon calculated that the brewer could earn interest and profit on the kegs of beer in excess of 500 percent per annum. The ultimate consumer who pays for this high return is satisfied with the situation. The potential high return pays for the risk of not receiving payment from the alehouses, and it would seem to easily compensate the brewer for the potential difficulties of receiving payments in large amounts of small change that might have to be discounted to obtain silver money, as well as the high excise taxes it had to pay to government.

These high rates of interest are not only permitted but are in a way useful and necessary in a state. Those who buy fish in the streets pay these high interest charges in the increased price. It suits them and they do not feel it. In like manner an artisan, who drinks a pot of beer and pays for it a price which enables the brewer to get his 500 per cent profit, is satisfied with this convenience and does not feel the loss in so small a detail.

Selgin's challenge of 100 percent reserve money is not a challenge to 100 percent reserve banking, because advocates of this view call for 100 percent reserve banking and market determined money, not 100 percent reserve money. Selgin's challenge itself is only

¹³ Cantillon does not mention this, but English beer was protected by prohibitive tariffs against French wine.

successful to the very limited extent that it maintains elements of government intervention such as bimetallism, legal tender, par value laws and coercion. Cantillon provides evidence that token money serves its purpose in the absence of government compulsion. In a free market economy with monetary freedom and private mints, the challenge evaporates.

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MONETARY ORDERS AND INSTITUTIONS: A HAYEKIAN PERSPECTIVE

WILLIAM N. BUTOS

ABSTRACT: An adaptive systems approach is used to compare a free banking system and a central banking regime with respect to their respective capacities to use and generate relevant knowledge. Monetary equilibrium, as a byproduct of a free banking system, has also been proposed as a norm for central bank policy. Differences in the way each system functions are found to cast doubt on that claim. The central problem identified is the difficulty of exporting results from one institutional setting (free banking) to a qualitatively different one (central banking).

KEYWORDS: monetary institutions, adaptive systems, knowledge, Hayek

JEL CLASSIFICATION: B53, B52, E52

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1. SOCIAL ORDERS AND THEIR EMERGENT CHARACTERISTICS

We know from Hayek that a vital characteristic of markets is that they transmit local knowledge in a form that is widely available to market participants—that they solve the problem of the division of knowledge. But the basic idea that I wish to promote is that this knowledge-enhancing characteristic is to be found in certain other social arrangements as well, and that a fruitful way of looking at social orders in general is to focus on understanding their ability not just to transmit knowledge but to generate it as well; not just to react to external events but to adapt to them.

As Hayek pointed out in “Economics and Knowledge” (1937), once we move from the analysis of a single person to the interactions of many persons, we really do enter an entirely different realm of investigation. I wish to take seriously Hayek’s claim and explore more specifically the idea that social orders differ with respect to their knowledge-using and adaptive capacities, especially with respect to the emergence of knowledge, and that such differences are significant. These ideas, whether always explicit or not, have played an important role in the development of Austrian economics and, as I show here, provide a framework for discussing the epistemic significance of institutions. In particular, I will discuss the functioning of monetary orders under different institutional frameworks in terms of their knowledge-using and adaptive capacities.¹

Social “orders” come in various guises and forms. I shall refer to them as structures comprised of individuals interacting according to specific routines, institutions and rules. We can envision a particular order, such as the catallaxy, as referring in the abstract to an open-ended system of voluntary exchange of claims to property in which actors pursue ends under scarcity and whose behaviors are constrained by rules and conventions governing those exchanges. The aim of each agent is to engage in action to relieve, as Mises (1998 [1949]) describes it, “felt uneasiness.” In so

¹ My Hayek Lecture also discussed science as an emergent social order and the effects on its operation of an institutional setting dominated by government funding and oversight. That discussion has been excised from the present paper, given that a more extensive treatment of that topic is now forthcoming in the *Journal des Économistes et des Études Humaines* (Butos and McQuade [2012]).

doing, and within the framework of property rights, the ongoing interactions of agents produce as a byproduct of that process an “order” having various attributes and outcomes.

I wish to highlight two central features of a catallactic process based on monetary exchange. First, as a byproduct and unintended consequence of individuals’ interactions, monetary market prices are generated as an emergent characteristic of the exchange process and could only have arisen by that process and in no other way.² The system of exchange under the conditions specified—its institutional arrangements—transform the actions of individuals into system-level outputs—market prices—that could not have been generated or known in the absence of the actual process from which they emerge. Such system-level outputs are not aggregated from the attributes of the system’s individuals because during the process of interaction those attributes undergo change and adjustment. The system’s outputs represent a transformative process. We can say that market prices are a *kind* of knowledge generated by the market process.³ This suggests that institutional arrangements matter for the market process and that the specific outputs the system generates will be institutionally-dependent. For example, the rental market for apartments will generate “outputs” in the form of prices, quantities, and the characteristics of the rental properties available to consumers. But these kinds of outputs will be different under *laissez-faire* versus a regime of rent-control and other kinds of interventions. And while individuals in both cases are “doing the best they can,” we also know that the system’s capacity to produce prices and other outputs to best meet the wishes of the consumers is different under each regime.

A second central feature of a catallactic process is that it should be understood as an open-ended feedback system. The emergent constellation of monetary prices constitutes relevant knowledge-inputs for agents to revise their plans and actions for engaging

² See Boehm (1994, p. 169).

³ Although we ordinarily identify “knowledge” as originating from the brain of an individual, a system composed of many interacting individuals has the capacity to produce outputs that are unique to its processes and recognizable to us as knowledge. This is not to suggest that such knowledge emanates from a collective consciousness or some super-brain. Rather, using the term knowledge as a characteristic of a social order is simply a useful way to understand the epistemic attributes of social phenomena.

in subsequent exchanges. More than that, the changing pattern of market prices induces a self-generating discovery process of entrepreneurial activity and also the discovery of new preferences by consumers. How well the system is able to satisfy the wishes of consumers will depend on the feedback properties of the system and these properties cannot be divorced from the framework of institutions governing the system's functioning.

For example, returning to the rent-control case mentioned above, the market under rent control is affected by the absence of price feedback signals that correspond to underlying supply and demand conditions. The familiar makeshifts and workarounds we see in regulated markets, such as deterioration of the quality of rent-controlled apartments or the "disappearance" of high quality ones, reflect feedback processes conditioned by the price controls. The system has adapted to the prevailing institutional situation, but its adaptive responses are not the same as those that *laissez-faire* would have produced. Feedback systems, like the market (both under *laissez-faire* and intervention), are adaptive systems and their adaptive qualities will be contingent on the governing institutional arrangements.

Social orders differ with respect to their knowledge-generating and adaptive capacities. This perspective provides a way to analyze how alternative institutional arrangements are likely to affect the way social orders function and reinforces the importance of looking at social orders from the vantage point of the use and production of knowledge and the way orders adapt. I believe this approach yields important insights about the comparative analysis of centrally planned economic systems, specifically in connection, as Mises and Hayek remind us, with the devastating implications caused by the absence of a market price system, as well as interventionist schemes which attempt to selectively circumvent individual markets, such as mentioned earlier with respect to rent-control. For short, I'll refer to this overall perspective on social orders as an "adaptive systems" approach.⁴

⁴ McQuade (2007) provides an excellent analysis of science and market as adaptive social systems.

2. MONETARY ORDERS

Monetary arrangements can also be usefully modeled as social orders, in which the transactions pertain to banks, their customers, and the constraints imposed on them. Here, the transactions involve the issuing of loans and the redemption of notes; the knowledge generated is visible as the level of reserves at individual banks and any market premium required for transactions in the notes of specific banks. By drawing contrasts between the adaptive capabilities of different monetary arrangements, we can carry out a form of comparative institutional analysis to highlight their respective knowledge-generating and adaptive qualities.

Turning first to central banking, the appropriate framework for analyzing central banking is an interventionist system dominated by an institution that conducts centralized monetary planning and which is effectively exempt from the consequences of its own actions.⁵ Since its inception in 1913, the Federal Reserve has been complicit in causing economic disruption and failing to meet its mandates of price stability and full employment.⁶ The recent financial crisis and recession highlight the failure of central banking (and, of course, other government policies as well). But it also ushered in Fed actions that are more opaque and disturbing. Under Bernanke, the Fed has used “quantitative easing” (QE)—that is, non-traditional ways to affect bank reserves and the quantity of money—by which it purchased over a trillion dollars of mortgage backed securities under QE I and more recently \$600 billion of long-term Treasury bills under QE II, which ended in June 2011. These programs resulted in Fed’s balance sheet increasing more than two-fold from August 2007 to January 2011, but have also had the effect of making the Fed a fiscal agent of the government—effectively carrying out fiscal policy by other means.

Bernanke defended QE II on the grounds that “core inflation” (a price index that excludes food and energy) was too low at about 1 to 1.5 percent and should be increased to about 2 percent. For

⁵ See Koppl and Yeager (1996) on central banks as “Big Players,” market players that have the capacity to affect market outcomes but who are immune to the consequences of their own actions.

⁶ Selgin, Lastrapes, and White (2012) analyze the Fed’s success in satisfying its mandate. They provide compelling evidence that the Fed has failed in its charge.

Bernanke, the risks of inflation are small while those of deflation in his judgment are large.⁷ The conduct of recent monetary policy has attracted much attention, and there are many economists who have not opposed or would have favored the Fed increasing the money supply early during the financial crisis. This line of reasoning argues that the failure of the Fed to satisfy the excess demand for money, i.e., the Fed not increasing the stock of money, induces a costly and possibly self-reinforcing deflationary process as individuals attempt to restore their cash balances to desired levels. If some prices are sticky or even stuck via regulation at certain levels, the adjustment occurs principally through quantities, such as outputs and employment. The consensus among mainstream economists was that any deflation, regardless of its source, called for aggressive monetary expansion to at least prevent deflation and for most to actively target the inflation rate in the 2 percent range.⁸

But as emphasized and explained by monetary equilibrium theorists (for example, see Selgin [1997] and Horwitz [2001]), it is important to differentiate between “benign deflation” and “harmful deflation.” The basic finding is that falling prices are benign when output is increasing, but harmful if the deflation is caused by an excess demand for money. Monetary equilibrium, defined as a zero excess demand for money at the existing level of prices (Selgin [1988], p. 54), requires constancy in the flow of monetary expenditures. The free banking model presented by White,⁹ Selgin, Horwitz, and others demonstrates that under *laissez-faire* a system of free banking will generate, as a byproduct of its operation, monetary equilibrium. This means that productivity gains will appear as price declines emanating from the affected areas. Ongoing productivity gains across widening swaths of the economy will lead to generally falling consumer prices. On the other hand, at the macro level monetary disequilibrium brought on by an excess demand for money at the prevailing level of prices provides signals inducing banks to satisfy that excess demand by increasing bank liabilities, thereby easing

⁷ See, for example, Bernanke (2002).

⁸ At its January 2012 meeting, the FOMC approved a “Statement on Longer-Run Goals and Monetary Policy Strategy” specifying a targeted long run annual inflation rate of 2 percent as measured by the price index for personal consumption expenditures. See <http://www.federalreserve.gov/monetarypolicy/fomcminutes20120125.htm>.

⁹ See White (1984a; 1989 [1984b]).

the severity of adjustment costs associated with prices declining until the demand for real balances has been satisfied. The tendency toward monetary equilibrium is an emergent property of the system itself. This result—monetary equilibrium—constitutes a benchmark against which a comparison can be made between two qualitatively distinct institutional orders: a central banking regime and a free banking system. The free banking system responds to an excess demand for money and falling prices by increasing the quantity of money in such a way as to promote resource use consistent with the wishes of the consumers via a market adjustment process. In the course of these adjustment operating at the level of interconnected markets, monetary equilibrium as an unintended byproduct of that process is generated at the system level. If the way this is achieved is contingent on the institutions that make up a free banking system, we might also wonder if a monetary system functioning under qualitatively different institutional arrangements can produce the same results. In particular, do the results of a free banking system carry over to a central banking regime?

While money stock responsiveness to an excess demand for money makes sense in one institutional context (free banking), applying that proposition as a policy approach to a fundamentally different institutional context (central banking) is problematic. This is because monetary orders operating under different institutional arrangements imply different capacities in their use and generation of knowledge and their adaptive properties. This point is analogous to the knowledge using and generating differences and outcomes we make with respect to a catallaxy and a centrally planned economic system.

My aim in these remarks is to consider whether the Fed, given its control over bank reserves (or the monetary base) and to a lesser extent over the supply of credit, is more or less able to mimic the functioning of a free banking system. The specific context I will use to discuss this matter concerns the recent recession that began in late 2007 and lasted (according to the NBER) through the summer of 2009. Some monetary equilibrium theorists have suggested that the Fed in early 2008 should have acted more forcibly in expanding the monetary base in response to the fall in money velocity.¹⁰

¹⁰ This is consistent with Hayek's (1966 [1935], p. 27 n.1) call for maintaining a constant "effective money stream" or, in today's parlance a constancy of MV. For Hayek, this norm was a requirement for "neutral money." It is also relevant to

a. Adaptation Under a Free Banking System

To address this question, let me outline the main features of a free banking system of the kind analyzed by Lawrence White (1984a; 1989 [1984b]) and George Selgin (1988). In particular, I would like to highlight how a free banking system modulates the quantity of inside money (or bank liabilities) in response to disequilibria between the supply and demand for money. My interest is to examine the adaptive workings of a free banking system as it responds to new information and how that compares to the agility and timeliness of a central banking system.

So, let us make the following assumptions about a free banking system:

1. It is a decentralized and fully deregulated (*laissez-faire*) banking system;
2. There is an absence of regulatory entry/exit constraints or requirements;
3. Bank notes of issue are redeemable on demand by depositors for a commodity reserve (e.g., gold) at a pre-determined fixed rate of exchange;
4. Bank liabilities have no pre-specified reserve requirement.

Let us turn to the case under free banking if individuals wish to increase their demand to hold the currency of a bank, as discussed by Selgin (1988). An excess demand for the liabilities or notes of a bank means that individuals wish to increase the “holding period” of notes. The flow of its notes passing through clearing houses diminishes and the exchange value of the bank’s notes increases. Less frequent and smaller turnover of bank notes would be reflected in a lower volume of reserve outflows so that the bank’s reserves would increase. It is now in a position to increase the size of its balance sheet by increasing its loans and the quantity of bank notes it keeps in circulation. The increased demand to hold this bank’s currency can thereby be matched by a corresponding increase in

note that the Fed’s more than doubling of the monetary base was accompanied by a more than one trillion dollar increase in the banking system’s excess reserves, reserves available to banks for commercial and consumer loans that could have supported a substantial increase in bank liabilities and the money stock.

the quantity of its currency. What might have become a decrease in the stock of money is circumvented.

It is relevant to note that this adjustment of bank notes to satisfy the increased demand for money does not require any specific directive for the system to respond appropriately. It is simply and importantly an implication of the institutional arrangements that govern how the system functions. The main point for the purpose here is that the quantity of money responds in the correct direction to situations where there is an excess demand for money at the prevailing constellation of market prices.

Under free banking, the system adjusts in piecemeal fashion according to specific (local) conditions should an excess demand for money (or, for that matter, an excess supply of money) arise. These signals promptly affect individual banks and induce self-correcting adjustments at that level. Banks which have issued excessive liabilities will have to contract their balance sheets, while those that have issued too few will be able to expand theirs. These adjustments affect particular components of the system and their effects will tend to be relatively confined to those banks and their customers for whom the adjustments are warranted.

The institutions that instantiate the market process provide scope for feedback mechanisms to promote the necessary adjustments by profit-seeking banks consistent with consumer preferences. Notably, individual banks react to relevant flows of information and to make adjustments in their respective behaviors based on that information. That is, adjustments are themselves decentralized. Because feedback and adjustment function at a micro level, the overall system will reveal increased agility and timeliness in its responses.

b. Knowledge Inputs and Outputs of Federal Reserve Policy

Now, let us consider how feedback and adjustment work under a regime of central banking such as the U.S. Federal Reserve System. The key feature here is that a single entity—the central bank—has the capacity to dominate the system's responses, in both real and nominal terms. My claim is that relative to a decentralized *laissez-faire* system, the central bank suffers from feedback and adjustment deficiencies. We can imagine several

conditions that might give rise to such deficiencies—such as constraints or policies arising from political pressure, its incentives as a bureaucracy to respond in certain ways, or subservience to Treasury and government fiscal policies.¹¹ But let me simply frame the discussion in terms of the information available to the Fed that induces it to take action, which corresponds to how effectively it can access and use relevant knowledge, and second, the kind of policy adaptation and response it implements, which corresponds to the kind of knowledge its actions generate. A brief overview of each will suffice, I believe, to adumbrate the difficulties a central bank encounters when there is an excess demand for money at the prevailing constellation of prices.

If there is an excess demand for money, the velocity of money decreases. The central bank, or the Fed in our case, must identify that such a decline has in fact occurred, its likely magnitude, whether it is localized or systemic, and whether it is transitory or chronic. These questions, while ascertainable *ex post*, remain problematic in terms of when that information becomes available to the Fed. The inescapable uncertainties surrounding the future (or expected) movement of velocity and other economic variables over the relevant policy horizon pose serious dilemmas for central bankers.

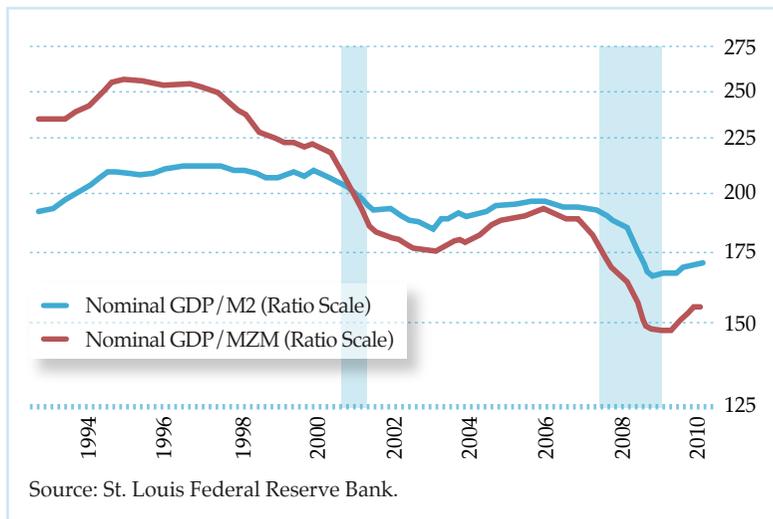
In the category of “what did the Fed know and when did it know it,” we can use Chart 1 to illustrate that from our *ex post* vantage point that the velocity of M2 in late in 2007 began to fall. Its decline, however, was initially mild and even consistent with what could have appeared as a generalized continued downward trend since 2000. While we know *ex post* that M2 velocity began to decline substantially in the fall of 2008, the information that might have convinced policymakers to head-off the decline in velocity earlier in the recession was not available to them or unambiguous. Although MZM¹² velocity, which I included in the chart, would have been *ex post* a better predictor of the decline in velocity during this episode, the Fed does not use that measure of money, perhaps because its volatility relative to M2 velocity is larger. So, despite

¹¹ These considerations are clearly germane to central bank policymaking, but are not considered here.

¹² MZM is a monetary aggregate of “zero maturity assets” that equals M2 less the time deposits plus all money market funds.

its precipitous decline beginning in 2007, MZM's velocity from the Fed's vantage point is not reliable as a useful signal upon which to adjust monetary policy.

Chart 1.

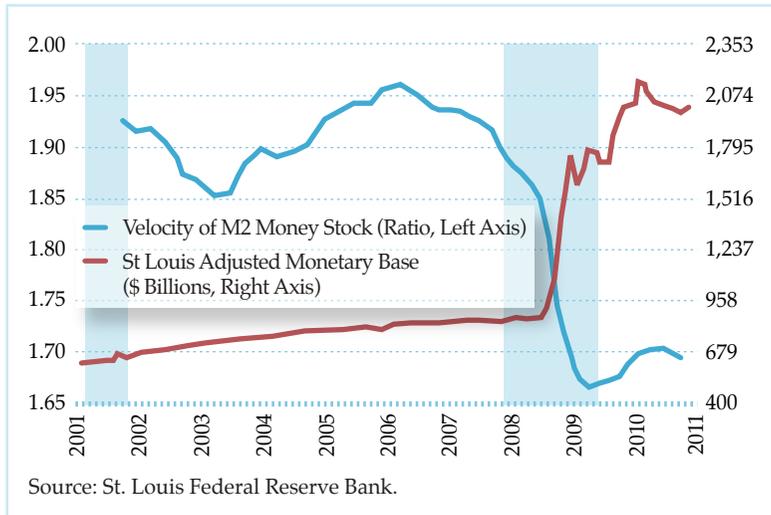


The question of whether the Fed could have better predicted the 2008 decline of M2 velocity is complicated by policies the government and the Fed began to implement in late 2007 to deal with the financial crisis and the recession. The policies themselves—e.g., the Fed's Term Auction Facility and other lending facilities that opened in late 2007 and early 2008, TARP (signed into law in October of 2008), and Fed-assisted bank bailouts of Bear Stearns—by which the Fed and Treasury got into the business of credit allocation to financial firms and later non-financial ones as well, may actually have had a negative effect on the economy due to inefficiencies associated with selective credit allocation programs. The induced uncertainties surrounding the hodgepodge of policy responses are factors that seem to have contributed to the continued fall in velocity through mid-2009.

Fed actions through the end of August 2008, from TAF lending and Fed funds rate reductions, increased loans to domestic (and

foreign central) banks by \$250 billion. However, the Fed kept the monetary base largely unchanged by purchasing an equal amount of Treasury securities. It was only later, in the early fall of 2008 when the Fed dramatically increased its lending, that we saw an increase in the monetary base from about \$0.5 trillion to about \$1.25 trillion by January 2009. As seen in Chart 2 below, the increase in the monetary base had little impact on M2 velocity and that even as the base approached \$2 trillion in 2010, velocity leveled out at 1.7, suggesting that using velocity as a benchmark for changing the monetary base is not necessarily sufficient in all circumstances for reducing an apparent excess demand for money. About 18 months after the recession “officially” ended, the enormous expansion in reserves showed up as excess bank reserves and only in early 2011 did the banking sector show some tentative signs of increasing its lending. Indeed, it seems that while the plunge in M2 velocity was no doubt connected to the financial crisis and the recession, factors other than these were in play and contributed to their severity, including most particularly the various distortions and uncertainties induced by Federal Reserve and government policies.

Chart 2.



Interpreting data and the lags in getting information affect the timeliness of Fed policy responses precisely because the decisionmaking is centralized. Information flows that originate at the level of individual banks or within specific sectors of the economy are aggregated into data thought to be essential for informed policymaking. Because policy mistakes affect the entire system and possibly the reputation of the policymakers themselves, we can understand why policymakers at the margin might have an incentive to wait for additional corroborating evidence before embarking on new policies. In contrast, the information flowing to banking institutions under free banking can be remediated quickly. Moreover, because these responses are highly decentralized, their effects are marginal and focused. The absence under free banking of *monetary policy* is strength of the system.

What appears as macroeconomic problems are real enough, but solutions ordinarily center on addressing difficulties dogging interconnected individual markets. Let us call this “the macro-micro problem.” Because policy measures principally are applied to the system at large, it is difficult to use the sorts of tools ordinarily available to policymakers to address subtle problems and market imbalances of a complex system and its multidimensional latticework of interconnected activities. A recent example is the housing crisis and the difficulty of addressing an excess stock of housing and the accompanying drop in housing prices using monetary policy tools, especially when fiscal policies, which aimed to provide a floor for housing prices and to subsidize homeowners, very likely made these problems more deep and long lived.

Such “macro-micro problems” can be approached from a somewhat different vantage point by highlighting that given increases in the money stock by a free banking system and a central banking regime in response to an excess demand for money will have different effects on market outcomes. Even if we stipulate that nominal income (MV) increases by the same amount in each context, the way that those increases cannot be the same. As noted earlier, under free banking, specific banks respond to the excess demand for *their* liabilities while the central bank responds systemically with a general increase in its liabilities coursing through the entire banking system. Under free banking the response, in contrast to that of a central banking regime, is decentralized, focused, and justifiable for

those banks, and results in the elimination of an excess demand for money in particular areas of the economy. In addition, under central banking, and unlike free banking, there is no mechanism to ensure that the increase in the (aggregate) money stock will be directed to where it is most needed. The way new money is introduced into each system is qualitatively different; hence, the allocative effects on the economy will be different under each system. The transmission channels by which some evident excess demand for money is resolved will generate different outcomes in the economy, assuming the restoration of MV is the same under each institutional setting. While monetary equilibrium under free banking has the prospect of generating equilibrating tendencies in specific markets or sources of disequilibrium, the transmission channels available under central bank policy cannot replicate what happens under free banking. These differing allocative effects suggest that the attainment of monetary equilibrium under central banking, such that the stream of MV is unaffected by an excess demand for money at the prevailing price level, will involve an underlying configuration of outputs and relative prices in the economy that is not the same as would have occurred under a free banking system. Even if monetary equilibrium, defined as a constant MV stream, could be achieved under central banking, we cannot assume it will have eliminated the pockets of disequilibrium in all markets.¹³

The Fed's difficulties arise because incoming and outgoing flows of information operate at a highly centralized level. This arrangement, in turn, does not provide or possess the requisite feedback paths for timely and appropriate adaptive responses by the Fed to the economic conditions it seeks to manipulate. As noted earlier, a free banking regime by its very structure is able to more effectively solve these knowledge problems—both in using and generating relevant

¹³ In contrast to the “macro-micro” views expressed here, Horwitz and Luther (2010) couch their discussion of central bank policy in terms of aggregates: “In our view, monetary stability means continuously adjusting the supply of money to offset changes in velocity. Given the current monetary regime, where such adjustments are in the hands of the central bank, they should be made as mechanical as possible. ... Given our monetary equilibrium view, we hold that the Fed should adopt a nominal income target. ... Under a nominal income targeting regime, monetary policy would have the best chance to maintain our goal of monetary equilibrium, at least to the extent that central bankers can accurately estimate and commit to follow an aggregate measure of output” (pp. 14–15).

and appropriate informational flows, and in so doing to adapt with greater agility and to greater effect. Table 1 summarizes these points.

Table 1.

	Capacity for Using Knowledge	Capacity to Adapt
Free Banking	Individual banks obtain and act on local knowledge Strong and timely feedback effects for guiding bank behavior	Individual banks have the incentive and ability to adjust quickly and appropriately to local conditions Banks are able to generate appropriate local responses on basis of profit calculation Mistaken responses have limited effects
Federal Reserve	Aggregate data to centralized decision makers Information feedback flows ambiguous and delayed	Policy tools operate at highly aggregative level Responses determined by a central board and subject to significant lags Mistaken policies are systemic

In retrospect, we might be tempted to urge the Fed to respond more quickly and forcibly. But this does not solve the underlying problems confronting any centralized policy-making entity, like the Fed, that attempts to make policy in real time amidst substantial uncertainty about the future. And it is necessary to note that quick and decisive responses by the Fed may actually increase the frequency of discretionary interventions and also the number of interventions that will turn out to be over- or under-reactions. Milton Friedman's image of a truck driver over-steering down a narrow and twisting country road, careening from one side to the other, captures the point. In short, we have good reason to think that a central bank is likely to encounter difficulties in solving its policy charge.

Although we may rant at specific policymakers and their decisions, my argument is that these deficiencies cannot be

disassociated from the institutional context in which they operate. The problem resides with central banking and policymaking as such. The problem of central banking is an institutional one and only regime change can solve that.

3. CONCLUDING REMARKS

My central claim is that social orders differ with respect to their knowledge-using and adaptive capacities and that these differences are significant. This, I believe, captures a long-standing and crucial insight in the development of Austrian economics, one that has been put to powerful effect in analyzing and comparing the market order and a centrally planned economic one. A centrally planned system cannot possibly acquire the dispersed knowledge of its constituent elements and it cannot generate market prices for allocating resources. The feedback channels essential for adaptation simply do not exist; consequently, the system cannot respond with agility, timeliness, or correctness.

But the lessons of central planning versus the market order may also be applied to other social orders, as well. Here, though, I have drawn attention to the monetary order and to the possibility of whether a system of central banking is capable of mimicking the functioning of a free banking system. I have tried to show that the knowledge-using and adaptive capacities of each are quite different. The institutional arrangements of a free-banking system provide appropriate feedback and responses that are not available to a central banking system. The kinds of outcomes that can be generated under these circumstances cannot be replicated by processes specific to a set of different institutional arrangements. The problematic nature of doing so, as discussed above, has centered on the adaptive properties of monetary orders and suggests that particular attention needs to be given to the question of exporting results generated by one set of arrangements to a system functioning under very different institutional arrangements.

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