

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

Hans-Hermann Hoppe

**F**iat 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.<sup>1</sup> 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

<sup>1</sup>See 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."<sup>2</sup>

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,<sup>3</sup> 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?<sup>4</sup> No, because

<sup>2</sup>Mises, *Theory of Money and Credit*, pp. 32–33.

<sup>3</sup>See 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).

<sup>4</sup>On 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?”<sup>5</sup> 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?”<sup>6</sup> 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,

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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).

<sup>5</sup>See 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).

<sup>6</sup>See 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?).<sup>7</sup> 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?<sup>8</sup> 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.

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

<sup>8</sup>See 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.”<sup>9</sup>

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

<sup>9</sup>Mises, *Theory of Money and Credit*, p. 111.

of money.<sup>10</sup> 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

<sup>10</sup>See 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.<sup>11</sup>

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

<sup>11</sup> 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.<sup>12</sup>

<sup>12</sup>It 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

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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.<sup>13</sup> 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

<sup>13</sup>See 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.”<sup>14</sup> 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

<sup>14</sup>See 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.<sup>15</sup> 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.<sup>16</sup> 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."<sup>17</sup> 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."<sup>18</sup> 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

<sup>15</sup>See Milton Friedman, "The Resource Cost of Irredeemable Paper Money," *Journal of Political Economy* (1986).

<sup>16</sup>Monetarists 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.

<sup>17</sup>Friedman, "The Resource Cost of Irredeemable Paper Money," p. 646.

<sup>18</sup>Friedman, *Essays in Positive Economics*, p. 250.

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

### **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.<sup>20</sup> 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

<sup>19</sup>Friedman, "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.

<sup>20</sup>On 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.<sup>21</sup> 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

<sup>21</sup>On 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).<sup>22</sup> 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 Selgin<sup>23</sup> 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.<sup>24</sup> Their monetary ideal is a universal commodity money such as an international gold

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

<sup>23</sup>See 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).

<sup>24</sup>For 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.”<sup>25</sup> 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

<sup>25</sup>White, *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.<sup>26</sup> 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*.<sup>27</sup> 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

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

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

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

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."<sup>29</sup> 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."<sup>30</sup>

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

<sup>28</sup>For 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.

<sup>29</sup>Selgin, *The Theory of Free Banking*, p. 54–55.

<sup>30</sup>*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.<sup>31</sup>

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.

<sup>31</sup>See Friedman and Schwartz, "Has Government Any Role in Money?"