

THE



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THE | REVIEW OF AUSTRIAN ECONOMICS

Articles

Jörg Guido Hülsmann Free Banking and the Free Bankers	3
Salim Rashid and Abdus Samad Portfolio Management of the Free Banks of Illinois: An Examination of Historical Allegations	55
Walter Block and Kenneth M. Garschina Hayek, Business Cycles and Fractional Reserve Banking: Continuing the De-Homogenization Process	77
Pascal Salin The Myth of the Income Effect	95
Anthony de Jasay Hayek: Some Missing Pieces	107
David W. Boyd Vertical Restraints and the Retail Free Riding Problem: An Austrian Perspective	119

Notes and Replies

Leland B. Yeager Rejoinder: Salerno on Calculation, Knowledge, and Appraisalment	137
Joseph T. Salerno A Final Word: Calculation, Knowledge, and Appraisalment	141
Hans-Hermann Hoppe Socialism: A Property or Knowledge Problem?	143
Jeffrey M. Herbener Calculation and the Question of Arithmetic	151

Review Essays

Roger W. Garrison Keynes Was a Keynesian	165
Murray N. Rothbard Intimidation by Rhetoric	173

Book Review

Murray N. Rothbard, <i>Economic Thought Before Adam Smith</i> (vol. I) and <i>Classical Economics</i> (vol. II) Reviewed by Leland B. Yeager	181
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Articles

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.

Jörg Guido Hülsmann is instructor of economics at the Technische Akademie Wuppertal. I wish to thank the referees for extensive comments on this paper.

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 Condé 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 eût 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 redirect 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 depositor 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 Verhaeltnisse 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 Umlaufsmittel*, 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 “depoliticizing 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.

⁹⁸Ibid., 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.

Portfolio Management of the Free Banks of Illinois: An Examination of Historical Allegations

Salim Rashid and Abdus Samad

The period between 1836 and 1863 constituted an era of free banking in the history of the United States. During this time, withdrawal of regulations by federal and state governments left the banking industry relatively free. Any person or association of persons could open a bank without legislative charter or permission. The opening of a bank was relatively easy. The only restriction was the capital requirement which was limited to not less than \$50,000. The liability provision of the bank was "limited." The shareholders of the bank were liable to the amount of their stocks. During the early stage, banks could be opened in any city, town or village without any population restriction. However, in 1854 and 1857 restrictions of varying numbers were imposed. For example, a bank could not be opened in a locality with a population of less than 1,000. As a result of the relative ease of banking there was a large growth of financial institutions. In Illinois, financial growth was noticed in the operation of 141 banks and their increased volume of money supply and deposit transactions.

The literature on free banking has sharply altered its focus in the last two decades. While the alleged failures of free banking have been closely analyzed and shown to have been greatly exaggerated the link to fractional-reserve banking has been missed in the literature so far. Economopoulos (1988), who pioneered the

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modern study of Illinois free banking, mentions this issue and we would like to draw out its full implication.

During the period between 1852–1863 a total of 131 banks closed in Illinois. So it was alleged that free banking led to bank failures and “wildcat” banking, i.e., that banks were engaged in issuing liabilities without any cash reserves in their vault or capital and assets to protect these liabilities. Note holders in particular were at risk. In order to avoid payment of the liability holders’ claim, banks were said to have resorted to various unfair practices such as holding fake specie reserve and locating bank offices in an unknown or inaccessible place where they would be difficult to find. Here are a few examples of such views:

Banks of very dubious soundness would be set in remote and inaccessible places where “wildcats” thrived. Banknotes would then be printed, transported to nearby centers, and circulated at par. Since the issuing bank was difficult, often dangerous, to find, redemption of banknotes was, in this manner minimized. (Luckett 1980)

Speculators bought bonds, issued notes to pay for them, and eluded their debtors by taking to the woods among the wildcats. Notes were issued by bankers with no known business. Their (banks) cash were sometimes of nails and broken glasses with a layer of coins on the top. (Hammond 1963, 1957)

The allegation of fraudulent banking practices and insolvency of Illinois banks was that they had little capital reserves or liquidity to support their liabilities. Liquidity in particular requires a study of the portfolio of these banks. Many of the details stated in what follows rely upon Samad (1991) to which the interested reader is referred.

Review of the Literature

The study of the free banking period has been an important topic in the context of our present banking crisis and several studies have looked into our banking heritage. Hugh Rockoff’s pioneering thesis (Rockoff 1972) asserted that the provision of par value of the bonds, particularly when the par value of the bond was greater than the market value, caused wildcat banking in most states and thus failure of free banking. According to him, the states that witnessed wildcat banking were Illinois, Indiana and Wisconsin. Recent studies (Economopoulos 1990; Rolnick and Weber 1982, 1984; and Samad 1991) found no such evidence, for Illinois in particular.

Hilderlith and Rockoff (1973) made an important study on free bank's portfolio management which found the reserve position of the free banks in Boston, New York, and Philadelphia to be the product of careful decision making instead of erratic, gambling behavior. For example, risk-averting banks with a high capitalization rate were found to have held less reserve compared to banks with a low capitalization rate. Banks issuing more deposit liabilities as a source of bank funds were found to have held more reserves since they were exposed to higher risk than the banks which issued less deposit liabilities.

Rolnick and Weber's (1982, 1984, and 1986) studies provided new findings which challenged the traditional view of free banking failure. According to their studies, it was not Rockoff's par valuation provision but rather it was the sharp decline in the asset prices which were backing notes that caused the liability holders to panic and ultimately led to free bank failure. Their study covered four states, New York, Minnesota, Michigan, and Indiana. Illinois was not covered in their study nor did they study the portfolio management behavior of the free banks.

Economopoulos (1988, 1990) made two important studies. One study (1990) was related to Wisconsin Free Bank. In his study of Illinois Free Bank, Economopoulos (1988) examined two hypotheses: (a) the wildcat banking hypothesis and (b) the falling asset hypothesis. The main focus of his study was directed to testing the hypothesis that falling bond prices caused bank failures in Illinois, and he found some evidence in support of this. During the period of June 1860 and June 1861 he found many bank failures (89 banks failed) associated with the sharp decline—55 percent drop—of bond prices. “[T]hus the evidence indicates that the fall of bond prices was a major factor in the free bank failures of Illinois” (p. 263). He tested the wildcat banking hypothesis with the criteria of Weber and Rolnick and found that “traditional accounts of wildcat banking in Illinois are unsubstantiated” (p. 263). Economopoulos (1990) examined the portfolio management behavior of Wisconsin's free banks. He found that “solvent banks held more loans and specie, and issued more deposits and less banknotes than closed banks.” However the portfolio behavior of Illinois banks was not covered by either study.

Our study differs from the earlier studies in examining Illinois's wildcat banking through various indices to measure the bank's ability to pay short-term debt obligation and the bank's

way of utilizing debt (lender's money). These ratios, computed from the various aggregate balance sheets of the free banks, are used as the quantitative measure for testing the bank's fraudulent and liquidity behavior. Furthermore, we have made a comparative study with the portfolio balances of the Ohio free banking system. Ohio was one of the states which had a successful free banking system. It is, therefore, important to compare the portfolio behavior of the two banking systems to determine whether or to what extent Illinois experienced responsible banking practices.

Our study relies on different data sources. In addition to the State Auditor's reports, the most important source of Economopoulos's study, we have used various U.S. House Executive Documents and reports of the U.S. Controller of Currency. In fact, the latter two sources constitute the most important sources of our data base. Our results are similar to that of Economopoulos except in minor variation of number and the percentage, and thus serve to reinforce his conclusions on wildcat banking.

Therefore, the main focus of this paper is to examine the portfolio behavior of the free banks of Illinois in connection with the historical allegation.

Portfolio of the Illinois Free Banks and Evidences

Like any other business corporation, the Illinois bank of the antebellum period was a private firm that provided depository as well as note-issuing services. The banks were engaged in manufacturing and retailing "money" in their quest for profits subject to some constraints. While the banks held deposits from the individuals and businesses and issued notes to support their loans, banks were required to deposit an equivalent amount of the U.S. or state bonds to the State Auditor. These bonds were valued at the market price, *not* at their face value.

Their lending policy was also subject to some legal restrictions. The bank could not legally charge more than seven percent although the market interest rate was higher than seven percent (Cole 1919; Samad 1991). Here is a quote from Article 28 of the Illinois Law 1851:

That any such association or banker, in doing business under the provision of the Act, shall not be authorized to take or receive exceeding seven percent per annum as interest on real or personal security.

The bank's objective was to increase its shareholders' wealth. Profit maximization depends on successful portfolio management. Striking a balance between profitability and liquidity is the key concept for successful bank management. A prudent banker must choose assets, including liquid reserves, to ensure adequate protection from illiquidity while generating enough income to stay in business. This is not an easy task. Given a banker's preference for risk, portfolio choice becomes a function of the structure of asset and liability influencing risk and return. Although bankers' risk preference differed across banks, the bankers of Illinois free banks, in general, are assumed to have been risk averse instead of risk lovers.

Unlike today, there were no reserve requirements in the free banking era. As a result, a bank's own assessment of risk and return decided the portion of the total assets to be held in reserves. The banks of this period could issue deposit and note liability, apparently, without any restriction of reserve requirements. However, banks were required to deposit 100 percent U.S. or state bonds to the State Auditor as collateral to support their banknotes. Article 2 of the Free Banking Act of Illinois states:

whenever any person, or association of persons, formed for the purpose of banking under the provisions of this act shall lawfully transfer to and deposit with auditor any portion of public stocks issued, or to be issued, . . . such a person, or association of persons, shall be entitled to receive from the auditor *equal amount of such circulating notes.* (Illinois Law 1852)

The *Banker's Magazine* states:

when a general banking law was passed, which authorized any person or persons, on depositing with the Auditor of the State any of the stocks of the United States . . . *to receive an equal amount of banknotes, to be used for banking purposes.* (1854, p. 13)

Thus as long as a bank could provide U.S. or State bonds as collateral for the amount of note-liabilities, there was no restriction on a bank to issue notes. Illinois free banks were subject to much harder restrictions than the present commercial banks; like the demand deposits, the notes of the free bank issued were required to be redeemed in specie (gold and silver coin) on demand whenever they were presented to the counter of the bank. If a bank failed to redeem its notes on demand, the note-holder

had a legal right to sue and close the bank. Such a right of closing a bank lent an added emphasis for liquid reserves in the portfolio management of the free banking system.

The study of free banks' reserves, and their liquidity in particular, must be analyzed from the context of the economic environment in which the banks operated and the aggregate structure of their assets and liabilities.

Illinois Economic Conditions

An understanding of Illinois economic conditions in the 1850s—the structure of its population, agriculture, industry and transport—is essential for the study of banks' portfolio management, and lending behavior in particular. In the 1850s Illinois was making a rapid transition. It attracted a special breed of migrants during the second quarter of the nineteenth century. Whereas the earlier migrants of Illinois were, as Governor Ford described, “unambitious of wealth and great lover of ease,” the new migrants, “Yankees” in particular, who moved from the eastern provinces were great lovers of unending wealth and risk. They were talented workers, capitalists and above all entrepreneurs (Ford 1942; Pooley 1908). They were extremely eager for bank credit to build up their fortune.

During the 1830s and 1840s there had been tremendous development of river, canal, and railroad transport in Illinois. This transport development paved the way for the development of agriculture, industry, and commerce. The prairie land of Illinois was brought under large and commercial farming. Investments in agricultural implements and machinery demanded the release of bank credit to help sustain the growth of agriculture. The surplus produce of commercial farming had to find markets. People involved in marketing needed capital. Bank credit was the only source which could provide financial support to their needs.

Thus the need for capital, bank credit in particular, was fundamental to the farmers, manufacturers, and merchants. The state desperately needed bank credits to meet the economic needs of the people at the time. The market for bank credits already existed. Only local banks and their supply of bank credits were absent. “After the general crash in 1837, the state (Illinois) was without banking associations until 1851” (*Banker's Magazine*, July 1854, p. 13).

Some businesses from outside Illinois were taking advantage of this tight financial situation. For example, the Wisconsin Marine & Fire Insurance Company was successfully issuing notes

in Northern Illinois although it was declared illegal for Wisconsin Marine & Fire to issue notes. Although its notes were illegal, the people of Illinois who were in need of money were accepting them in large numbers. They paid no heed to the law.

The banks of Missouri and Ohio were also successfully banking in Illinois. Each year these banks earned substantial profits and transferred them from Illinois into their mother states. People in need of credit to meet their needs were accepting them without giving any consideration of the origin or legality of these banks.

Illinois free banks opened at a time when there was such a pressing need for their loans. In this condition of financial hunger, the supply of loans by way of banknote would not be turned down by individuals and would not be returned to the clearing-house for redemption (Selgin 1988, p. 67). The issue of banknotes to finance the credit needs of the individual and business acted as a medium of exchange side by side with specie.

Asset-Liability Structure of the Illinois Free Banks

The free banks of Illinois were required to report their assets and liabilities, the names of their stockholders and the bank's location to the Office of the State Auditor, and the auditor's office in turn published this information in its biannual reports. An aggregate balance sheet is randomly selected from the Bank Commissioner's Condition Report and presented in Table 1 to show the nature of assets and liability of the free banks.

Liabilities

It appears from the aggregate balance sheets (Samad 1991, various House Executive Documents) that the free banks of Illinois were engaged in issuing two major types of liabilities: banknote and deposits. The paid up capital of the banks was the major source of the bank funds except in three years, i.e., 1855, 1859, and 1860. The paid up capital was required to be invested in long-term U.S. and state bonds. By depositing these eligible assets, the banks obtained an equivalent amount of banknotes for circulation. These notes were exchanged for loans and discounts, for specie or additional investments in bonds, i.e., they acted as a medium of exchange. However, these notes constituted about 43 percent of the total liabilities. The year-by-year distribution of banknotes is presented in the Table 1 in Appendix 1.

The issue of notes had two special characteristics. Banks were exposed to high risk when the notes of the bank could not be

redeemed on demand. Failure to pay note-holders on demand would, in normal circumstances, result in the forfeiture of banking license. Such a harsh penalty provision provided bankers, prudent bankers in particular, an incentive to maintain adequate cash (specie) reserves or near cash reserve (which could be redeemed into specie with less time and cost) to meet the liquidity needs of the bankers.

The amount of banknotes in circulation was linked to the deposits of U.S. and states bonds. As such, the notes were safe and exchanged for loans and discounts or specie or additional investments in bonds. These notes acted as a medium of exchange just like specie.

As depository institutions, free banks were also issuing deposit liabilities. Deposits of the Illinois banks constituted a small percentage of the total liability because of the agrarian economic character of Illinois. Deposits were mostly savings. Deposit liability has advantages. One of the greatest benefits of issuing deposit liability is that the deposit holders could not invoke banking license on default. Thus, banks were not required to back these deposits with bond collateral. Secondly, interest payment on deposit was not a common practice during those days (Economopoulos 1990, p. 426).

In case of bank failure, note-holders' claim was applied first. This first lien provision and the legal rule that noteholders could revoke banking license if a banknote was not redeemed on demand provided an incentive for the bank depositors to put their money on saving deposit and monitor the financial position of the bank.

Miscellaneous liabilities constituted a very small percentage and therefore did not warrant discussion.

Assets

The assets of the Illinois free banks were made up of reserves and investments in varying combinations.

Reserves were the bank's most liquid assets and were mostly non-earning assets. Since reserve items are not profit making, banks usually keep them at a minimal level. As opposed to the division of reserves of the present time like legal reserve, required reserve, and excess reserves, etc., the free bank was not subject to any such legal reserve requirement. Banks decided the amount of minimum reserves as the amount which provided safety for the bank, on one hand, and maximum opportunity of earning on the other. The most liquid assets of the free banks

were, in descending order of liquidity, specie reserves, notes of other banks, bankers' deposits with other banks, additional investment in U.S. and states bonds, and real estates.

Specie in the bank's vault was the most liquid asset of the bank. It was the legal tender of the period. As the specie reserve was a non-earning asset, banks determined their amount based on past experience. The specie reserves of Illinois free banks against banknotes in circulation and deposits issued were, on average, 11 and 43 percent respectively.

In order to supplement specie reserves, the free banks of Illinois invested in the banknotes of the other banks. Notes of other banks in a bank's vault could be considered as near liquid. They could be cashed into specie as there existed markets for banknotes in New York, Philadelphia, and St. Louis. Investment in the notes of other banks minimized the need of excess specie reserves arising from note circulation. Investment in banknotes was, on average, seven and a half percent of the total circulation plus deposits. This procedure provided mutual insurance and reinforced credibility (Calomiris and Kahn 1990).

Illinois free banks were also found to have maintained investments with other banks. These investments were in the form of keeping deposits with other banks and buying the bills of other banks. Small bankers and county bankers traditionally maintained correspondent funds with the large and city banks so that whenever a small bank or a county bank was in need of extra specie, they could turn on them. The earnings from these investments were not the principal goal of the bank. It minimized specie needs and provided additional sources of reserves and thus ensured safety. Deposits with other banks and debt owing to banks other than loans and discount constituted about 30 percent of the total assets. Investment in others' banknotes plus bankers' deposit constituted about 43.8 percent of Illinois circulation and deposits.

The free banks of Illinois were found to have held other types of assets in their portfolios. In descending order of liquidity, the assets were compulsory investments in the U.S. and the states bonds and loans and discounts. The investments in loans and discounts and government securities were a bank's principal earning assets.

Investments in the long term government bonds constituted a significant portion of the total assets. It amounted to 100 percent of the note liabilities and about 48 percent of the total assets. This high percentage resulted from a number of reasons. *First*, the U.S. and States bonds were relatively the safest asset

to invest even though there were fluctuations of bond prices. *Second*, there was a ready market for bonds. Banks could easily sell their excess bonds without substantial loss in value. However, the securities deposited as a collateral to support banknotes were not allowed to be sold even when a dollar banknote was protested. *Third*, the rate of interest earned on bonds was relatively high and risk free. The default risk of government securities was almost nil.

The most unusual characteristic of bond investment was that although the free banks of Illinois were holding a large quantity of assets in their portfolio, *they were not permitted to use this asset/resource to meet any emergency of the bank*. They could be withdrawn and used only when the banks had met all obligations of the liability holders. This leads us into a central contention—free banks were virtually 100 percent reserve banks; their failure was a failure of regulation.

Loans and discounts were an important asset, accounting for about seven percent of the portfolio of the Illinois free banks. The banks could easily meet the liquidity needs by calling in some loans. Since they were short-term investments, the costs of converting them into specie were presumably not high. While they were assured of easily obtainable ready cash with less transaction cost, these investments were a good source of earnings when bills were bought and discounted.

Thus the Illinois free banks' supply of liquid reserves was defined as the combination of specie and demand claims on specie consisting of notes of the other banks, correspondent funds (which each bank held with other banks). In addition to these reserves, banks held a significant portion of their assets in loans, bills discounted, and other assets. Some of these assets were quite close to liquidity because any asset which could be converted into specie quickly and at a low cost could have potential ability to meet banks' liquidity. Although secondary markets for bank loans did not exist, they themselves were short-term ranging from three to twelve months (Economopoulos 1990). Moreover, these loans could be called in at short notice. Therefore, the free bankers could match the maturity of loan portfolio with the anticipated liquidity needs of the banks.

Comparison of Ratios and Evidence for Illinois

The study of the aggregate balance sheet revealed that the free banks of Illinois held large quantities of liquid, near liquid, and illiquid asset in their portfolios to support the total liabilities.

Table 1
A Summary of Comparative Figure of Ratios

Ratios	Illinois	Ohio
Capital Circulation + Deposit	.75	.48
Capital Circulation	.97	.69
Specie Circulation + Deposit	.097	.15
Others' Notes + Bankers' Deposit Circulation + Deposit	.34	.438
Capital Assets	.40	.28
Notes Circulated Deposits	.066	1.9

Whether these reserves were adequate for the honest portfolio management, given the structure of risk and return of their portfolios and Illinois economic condition, has been studied with reference to those of the Ohio banking system of the same period. The Ohio free banking system was chosen because the Ohio banking is unquestionably acclaimed as one of the most successful of the period. The various financial ratios like capital to deposit, capital to major liability, capital to asset, specie to notes, and specie to major liabilities provide deep insight into the operation of the banks portfolio management.

These ratios are used to measure the risk-return attitude of Illinois free bankers. The comparison of these variables between the Ohio and Illinois banking system would suggest whether or to what extent the behavior of the Illinois bankers was fraudulent. A summary of these ratios are presented in Table 1. The detailed year-by-year figures for these ratios would be available upon request.

Analysis and Interpretation of the Ratios

Capital Ratios

The total capital of a bank in itself has little meaning. However, capital can be compared more significantly to other items of

the balance sheet. Capital liability ratio is an important index of measuring a banker's preference for risk and return. The ratio of paid up capital to total liabilities provides a good measure of the proportion of bank funds not subject to sudden and unexpected withdrawal. Because of the stability of equity fund it was assumed that the higher the capitalization rate (i.e., the high capital-liability ratio) the lower the risk faced by a bank and vice-versa, *ceteris paribus*. The higher ratio of paid up capital to liabilities of a bank provides more protection to the liability holders than a bank with a small capital-liability ratio. Bank capital was intended to protect liability holders. Therefore, a risk-averse manager would hold smaller specie reserve if the capitalization rate was high. Hilderlith and Rockoff (1988) found the validity of this hypothesis for the banks of Boston, New York and Philadelphia.

The comparison of capital-liability ratio of the Illinois and Ohio banks presented in Table 1 shows that Illinois bankers maintained a significantly higher amount of paid up capital than that of Ohio bankers. The ratio of capital to major liabilities in Illinois and Ohio was, on average, .75 and .48 respectively. This high capitalization rate suggests that the bankers in Illinois were risk averse and their portfolio management was not fraudulent. Instead it was a product of careful decision making. They were not established to cheat depositors and noteholders.

Capital to banknote Ratio

Historically, regulatory authorities required banks to have total capital equal to about one-tenth of the total deposits to help protect the depositors. During the free-banking period, the main concern of the bankers was not the depositors but the noteholders. Because a bank's failure to redeem these notes on demand could close a bank. Therefore, the high ratio of capital to banknotes would reflect a bank's genuine concern for the noteholders. The comparative ratio of capital to circulation of Illinois and Ohio banks presented in Table 1 was .97 and .69 respectively. The higher ratio of capital to circulation would suggest that Illinois bankers did care for their liability holders and were risk averse. Capital represented those funds that a bank could lose without endangering its ability to pay its creditors. Compared to present time ten percent rule, Illinois bankers followed about 100 percent rule to protect their liability holders. So, the allegation of Illinois bankers' fraudulent behavior seemed unfair.

Specie Ratio

High ratio of specie to major liabilities, i.e., banknote plus deposits would indicate higher liquidity, therefore, lower liquidity risk exposure than a low ratio of specie to liabilities. The comparative specie ratios of the Illinois free banks and the Ohio free banks presented in Table 1 show that Illinois and Ohio bankers maintained specie reserves, on average, ten percent and fifteen percent respectively against their banknotes and deposits. Thus, it appears that the Ohio free banks' portfolios maintained five percent more vault cash/liquid assets than those of Illinois free banks. This would not mean that Illinois free banks were less efficient or fraudulent minded and that they would be exposed to high risk. It is consistent with the sound banking practice of the time. Deposits were a more volatile and riskier component of liabilities than notes (Myers 1931). Since Illinois banks issued more notes than deposits compared to those of Ohio banks it was consistent for Illinois bankers to hold a smaller proportion of specie reserves than that of Ohio banks. Hilderlith and Rockoff's study (1973) already supported the hypothesis that banks issuing more notes than deposits would hold less specie reserves in its vault.

The high capitalization rate and the high near liquid reserves of Illinois bankers would justify lower specie reserve in their portfolio. They held a significant portion of their assets locked in bond reserves. Moreover, Illinois free banks held a higher percentage of near liquid assets like notes of other banks plus bankers' deposits in their portfolio than that of Ohio free banks. The comparative ratio of notes from other banks and bankers' deposits to circulation plus deposits in Illinois and Ohio was 44 percent and 34 percent respectively. On the other hand, the five percent higher specie reserve by the Ohio free bankers would be expected because the Ohio banks held less capital against their circulation than the free banks of Illinois. Deposits of the Ohio banks as a source of bank funds were larger than notes in circulation. The deposits, as noted earlier, were more risky than notes.

Circulation Deposit Ration

A bank relying heavily on deposit as a source of bank's funds would be expected to bear greater risk than the bank relying on notes as a source of bank funds. Notes were issued to support loans and the loans had many stringent conditions attached to them. For example, borrowers receiving loans could not redeem

these notes within some specified time. Banks preferred to issue notes for the purchase of long distance goods and services (Golembe 1978). Banks discouraged loans by charging a high rate of interest if the note supporting loans were expected to return soon. In such loan markets, maintaining a high ratio of circulation to deposit would mean that the banker felt less at risk than the banker holding low circulation to deposit ration. Consequently, a bank with high ratio of circulation to deposit would hold less specie and more secondary reserves like notes of other banks, banker's deposits, etc. This policy would ensure safety as well as profitability. The comparative ratio of circulation to deposit of Illinois and Ohio banking system presented in Table 1 was .066 and 1.9 respectively. Since Illinois bankers were maintaining high ratio of circulation to deposit, it was expected that they would hold less specie and more secondary reserves which was reflected in the high ratio of other banks' notes and bankers' deposits to major liabilities (i.e., circulation and deposit). The ratio of secondary reserves in Illinois was .340 as opposed to .438 in Ohio shown in Table 1.

Structural Comparison Between the two Banking Systems

There have been some important structural differences between the Ohio and the Illinois free banking system.

In Illinois, there was only one type of bank, the free bank, in operation during the period under consideration. Consequently, they had no experienced model bank in the state to follow with respect to their lending and specie reserve policies. With the closing of the State Bank of Illinois in 1842, there was no other bank in the state than the Free Bank.

In Ohio, there had been three types of banks simultaneously in operation. They were: (1) branches of the Ohio State Bank, (2) Independent Bank and (3) Free Bank. Among these types of banks, the Ohio state banking system was experienced and constituted the largest share in the market in terms of bank number and bank capital in Ohio. The number of free banks and their total bank capital never exceeded one-third of the total Ohio State banks and their capital. Tables II and III substantiate our claim.

Since the Ohio State banking system had long been in operation prior to Ohio free banking, the Ohio Free Bank might have used them as their model in their banking practices. Consequently, the Ohio free banks as newcomer followed cautious banking practices with respect to specie reserve and lending policies while competing with the established banking firms.

Table 2
The Types of Banks and Their Total Number

Year	Independent Bank	Ohio State Bank	Free Bank
1853	3	44	13
1854	12	43	14
1856	12	42	13
1858	9	36	10
1858, Nov	9	36	11
1861	7	36	12
1862	7	36	12
1863	5	36	10

Numerous Free Bank Failures?

It was alleged that there were numerous free bank failures in Illinois. The view that there were numerous bank failures and that banks were in existence only for a short while during the free banking period were examined by Rolnick and Weber (1984) in four states: Indiana, New York, Michigan, and Minnesota, to test Rockoff's par valuation hypothesis (Rockoff 1974) and its impact on the bank's business life. This paper examines the bank failure rate and average bank life for Illinois free-banking period.

Bank failure and bank closing are not synonymous. When a bank paid all of its liabilities and then closed the business, it was closing of a bank at par. The closing of bank at par is not a failure of bank. It was a voluntary closing. A bank just like any other business might have closed banking firms voluntarily for different reasons. The closing of a bank at par involved no losses to the liability holders. So, the bank which closed at par could not be considered a failure.

A bank is said to have failed when it was closed below par. If the note-holders of a bank were not paid in full, then the closing of bank was considered a failure because the bank was ordered to be closed; it was an involuntary closing. Taking this criteria into consideration, Samad's study (1991) reveals that only two

Table 3
Capital and Asset Structure
of Free Banks vs. Ohio State Bank

Year	Ratio	Free Banks	Ohio State Bank
1853	Circulation/specie	2.38	4.36
	Liability/capital	4.50	4.00
1858	Circulation/specie	3.35	3.72
	Liability/capital	4.12	3.14
1861	Circulation/specie	3.38	3.71
	Liability/capital	3.29	5.09
1863	Circulation/specie	1.47	3.44
	Liability/capital	5.88	4.45

banks failed before 1861 although a total of 25 banks were closed. The failure rate is only 1.5 percent in nine years. This 1.5 percent failure rate (or two failed banks) during 1852–1860 speaks volumes for it does not mean there were numerous bank failures nor does it mean an unstable banking system. Free-bank failures however jumped up in 1861 when 94 banks closed. Of these, 89 banks were found to have failed. The failure rate in a single year, the first year of the Civil War, was abnormally high in Illinois. The failure rate was almost 95 percent in a single year. The large bank failure in a single abnormal year could not decide whether the free banking system of Illinois was a failure or success. If the failure rate of 1861 is ignored, the free-banking system is a relatively stable system. The total number of banks failing during the period 1852–1861 and 1862–1864 was only three although a total of 43 banks closed during the same period. After the initial shock of the Civil War, bank failures almost ceased to exist in Illinois. One bank was found to have failed between 1862 and 1863.

The issue of the free bank's numerous failures and short existence of operation explained by Rockoff is carefully examined in Illinois. According to Rockoff, it was profitable for a bank to close its business permanently when market value of the bonds backing the notes as collateral was less than bond's par value (face value) because notes were issued to the amount of the face value of the bonds. Thus, as soon as the circulation of notes was

complete, banks found it profitable to close the business. The life span of the banks in such a situation was found to have been very short—"maybe a month or two" (Rolnick and Weber 1982).

Rolnick and Weber's method is used for calculating a bank's average life. A bank's business life is counted as the difference between the date a bank was closed and the date the bank was opened for business. Using this technique, the estimated average life span of Illinois free banks does not substantiate the conventional view that Illinois free banks opened their business just for a short while to circulate their notes. This study finds that the average life span of an Illinois free bank was around three years and eight months. Only 20 or 14 percent of the banks were in operation for a period of less than one year; 29 percent operated between one and two years; 13 percent operated between two to three years; and the remaining 57 percent of the banks were in business for a period of more than three years. This is somewhat better than that noted by Economopoulos (1988).

This estimate of the average bank's life provided in this study is conservative. Each bank's opening date is counted from the date the bank's name was found to have first appeared in the condition report of the Bank Commissioner. When a bank's name was not found in the current condition report, then the date of the previous condition report showing the bank's name was considered as the closing date for that bank.

In such an estimate there is downward bias in the bank's average life span. Many banks could have been in operation for one to six months before they were found to have appeared in the bank's condition report. Similarly, many banks could have been in operation for a few more months before they had been reported in the next condition report. As such, my estimate of Illinois free banks' average years of operation is downward biased in both respects.

So, the allegation of instability of the Illinois free banks characterized by numerous bank failures and the short existence of banks' business operation is an exaggeration.

The allegation of banks' unfair practices by locating their offices in "an unknown and inaccessible place" was also studied. Only four banks out of 141 were found to have no exact place of location. These banks were: the Bank of Identity, the Bank of Kewanee, the Eagle Bank of Illinois, and Canal Bank. Their location could not be found in the 7th and 8th U.S. census. This meant that these banks were either fictitious or they were in the remote countryside where population figures were too low to

warrant census attention. The rest of the banks of Illinois (98 percent) were found to have been established in the county seats and in important townships. Judged against the location of population, our study shows a large majority of the banks were in communities of more than 1,000 people (Quinn and Samad 1991).

Thus, a generalized allegation of free banks' involvement in fraudulent practices is unjust and unfair.¹

Conclusions

According to aggregate balance sheets, the free banks of Illinois held wide varieties of assets in their portfolios and the value of these assets were larger than those of their liabilities. Therefore, the banks were never insolvent. The banks might have become temporarily illiquid but they were found to have held huge amounts of other resources in their portfolios. Whenever the value of their liabilities were exceeding the value of their assets, banks were issued margin calls or required to retire some of their notes from circulation. Their portfolio management was, thus, not intended to cheat the public. The aggregate balance sheet could not provide any conclusive evidence in support of the conventional view that the portfolio management of the free-banking system was fraudulent. It does not, however, rule out the possibility of irresponsible banking. There might have been some banks that were established with the fraudulent intention of circulating notes but not redeeming them.

The literature on free banking has laid inadequate emphasis on the financial hunger that characterized many states and which forms an appropriate background against which the responsibility of banking must be judged. The Bank of the State of Missouri wished to set an example of financial integrity in 1838 by refusing to issue its notes unless it covered them securely. Such was the demand for finance that a committee of 11 prominent citizens offered to endorse paper from the banks in Illinois and thus guarantee the Missouri Bank from loss. The Missouri Bank refused. In disgust, the merchants and traders of St. Louis moved increasingly to private banks and insurance companies (Hubbard and Davids, p. 60).

¹The approaching Civil War caused panicky noteholders to demand redemption and cause the price of Southern bonds to decline by 55 percent between 1860 and 1861. This contrasts with drops of 13 percent during the panic of 1854 and 24 percent during the panic of 1857. As Southern bonds were a major source of collateral for Illinois free banks, the subsequent failures became more understandable. A detailed study of failure due to the Civil War is underway and will be reported subsequently.

The center of economic activity moved from St. Louis to Chicago in the period 1840–1860 (see the maps in Cronon, *Nature's Metropolis*, chap. 6), so we can presume the pressure on Illinois banks to be just as great. That the Illinois banks were not principally, or even largely, wildcat banks was adequately shown by Economopoulos earlier by looking at location and at bond prices. (The only possible weakness being the focus on Tennessee bond prices, when Missouri bond prices would have been more relevant.) The Illinois banks had to issue notes at the market price of their bonds—thus providing for 100 percent reserve. That regulation was at least somewhat responsible for the failures of these banks, and was evidenced by the bank commissioners, who protested the notes not the noteholders and from a defective scheme whereby Illinois bonds, which everyone would be most cognizant of, were held at only 80 percent of their value while the bonds of other states could be held at full value. A close look at the balance sheets shows most banks did hold full reserves and therefore can be said to have been free and responsible banks.²

²An anonymous referee pointed out that this outcome is consistent with the prediction of Ludwig von Mises, *Human Action* 3rd ed. (Chicago: Henry Regnery, 1966), pp. 444–48.

Appendix
Statement of the Condition of the Banks
of the State of Illinois, on Monday, April 3, 1854

Resources

Total public stocks at which they were received by the auditor	\$2,475,741.62
Amount paid over the value at which they were received by the auditor	\$196,162.13
Real estate	\$3,158.22
Notes of the other bank on hand	\$385,339.45
Amount of debts owing to the associations other than loans and discounts	\$1,368,203.68
Suspended debt	
Specie on hand	\$565,152.04
Loans and discounts	\$316,641.76
Deposited with other banks	\$878,612.58
Expense accounts	\$4,874.97
Checks, drafts, and other cash items	\$63,892.41
Total resources	\$6,257,778.86

Liabilities

Capital stock paid in and invested according to law	\$2,513,790.17
Amount of debts owing by the association other than depositors	\$294,034.50
Amount due to the depositors	\$1,286,102.25
Notes or bills in circulation	\$2,283,526.00
Profit and loss account	\$71,787.00
Total liabilities	\$6,449,239.92

Source: U. S. House of Representatives, Executive Documents 33-2.

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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 thoroughgoing 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 merri-
ment 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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The Myth of the Income Effect

Pascal Salin

Microeconomics traditionally splits the consequences of price changes into two different effects: the substitution effect and the income effect.¹ The effects are supposed to work in diverging directions. The precise reaction of demand or supply to a relative price change can operate either way. The supply curve is not necessarily upward-sloping and the demand curve is not necessarily downward-sloping.

The income effect plays a crucial role in mainstream microeconomics, as well as in applied economics, because it induces economists to think, for instance, that there are backward bending curves. Such curves are particularly assumed to exist for the supply of labor. Within a certain range, a decrease in the real wage would not bring about a decrease in the supply of labor, since people want to maintain their income and, therefore, increase their supply of labor. If this is true in tax theory, the “Laffer-effect”² would not exist, at least in certain conditions in which the supply curve for labor is supposed to be atypical. With the income effect, an increase in the tax rate on labor income—i.e., a decrease in the real after-tax wage—would be compensated for by working more. The “Laffer-effect” assumes that there is always an inverse relation between the tax rate and productive efforts. In a similar way, the income effect would

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¹I thank Philippe Lacoude and Frédéric Sautet for their very pertinent comments on a previous version of this paper, the idea of which actually stemmed from a talk with them.

²The increase in a tax rate decreases the tax base and, beyond a certain tax rate, this effect is sufficiently important for the increase in the tax rate to induce a decrease in tax revenues instead of an increase. It is now usual to label this process as the “Laffer-effect.” But it had been developed before Arthur Laffer gave it its popular expression. One can find it, for instance, in a refined form, in Geoffrey Brennan and James Buchanan, *The Power to Tax* (Cambridge University Press, 1980).

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account for a possible increase in the rate of savings when the return on savings is decreasing.

The existence of the income effect assumes that the concept of income can be defined in a non-ambiguous way. It can be measured and quantified. In fact, this is not true. Income can only be understood using a precise concept of utility which does not allow room for measurement. In the present paper we show that the income effect is not consistent with a purely logical theory of utility. In reality the income effect can exist only if one adds a specific assumption. Contrary to the belief that the income effect is a general principle, it is in fact only a possible consequence of a specific assumption. The substitution effect—consistent with the general theory of utility—is the only general principle.

Let us consider an individual's supply curve for labor in a world in which there are only two goods, leisure and wheat. Time is the only scarce production factor. Land is not operationally scarce, so that the physical productivity of one hour of labor in terms of wheat is constant. There is a certain relative price between leisure and labor (the production of wheat). In one hour, one can produce one hour of leisure or one pound of wheat. For this given relative price, an individual wants to share his available time between leisure and the production of wheat. If he does not desire to produce and to consume more wheat, it is because sacrificing one hour of leisure to get one more pound of wheat is not worthwhile from his own point of view.

Now, economists usually define the income of an individual by the quantity of tradable resources (wheat) he is producing at each period; his production of leisure services is excluded. But such a notion of income is arbitrary in comparison with the more general concept of satisfaction (or utility): The individual's total satisfaction is equal to the "sum" of the satisfaction he draws from leisure and the satisfaction he draws from consuming the wheat he has produced. Saying that the desired level of income is equal to y is in fact saying that a maximum satisfaction is obtained when the production of wheat—named income—is equal to y and the production of leisure services is equal to x , knowing that $x + P_{xy} = \bar{t}$, where P_x is the price of one unit of wheat in terms of hours of leisure and $\bar{t}$ is the available quantity of time, for instance 24 hours a day.

Let us assume now that a disease strikes the wheat crop and it cuts the productivity of labor by one half or—the equivalent—a tax has been introduced on the production of wheat, so that one

can keep only half a pound of wheat for one hour of work. The opportunity cost of producing and consuming wheat increases in terms of leisure. The logic of choice would imply that one does not produce as much wheat as before.

Referring to this logic of choice, what could be the meaning of the income-effect? It implies that the individual aims at maintaining the level of his income, at least partially. That is, he wants to maintain his production and consumption of wheat. But it is inconsistent to hold that the individual has two aims in mind. He would have an income target (a certain amount of y): leisure time would be nothing but an instrument which can be used to reach this income target through a process of transformation. On the other hand—and contradictorily—he would have a satisfaction target: he aims at maximizing his level of satisfaction by obtaining an optimal mix of x and y .

In the above example, it is traditional to say that the individual facing an increase in the cost of wheat may not decrease his production of wheat—although it is most costly in terms of sacrificing leisure—but may decide to work more. Therefore, the supply curve would be backward-sloping.³ There are more work hours when the return of one hour of work is decreasing. The income effect would thus dominate the substitution effect. In fact, the belief in the existence of the income effect implicitly requires *specific assumptions* which are not absolutely and logically necessary. This is to say, the income effect does not exist as a general phenomenon; it is a mathematical illusion in a badly specified world.

What happens in reality? If one assumes that an individual increases his supply of labor when the return on work hours decreases, it is necessarily because one has added an additional assumption (if not, one ought to admit that the substitution effect—which necessarily exists—is the only one to be met). Very likely, it is implicitly assumed that wheat—contrary to leisure—is necessary for one's survival, so that, if the substitution effect was the only existing effect, there would be a risk for an individual of passing under the subsistence level, which he cannot accept. But that is really saying that there are three goods (or three sources of utility) and not two, namely the pleasure

³Hans-Hermann Hoppe raised an interesting question on a previous version of this paper: If the income effect does not exist, does it imply that a supply curve cannot be backward sloping? We explain in the appendix why, in our opinion, it is impossible.

drawn from leisure, the pleasure drawn from consuming wheat, and survival services obtained from wheat consumption. One also assumes implicitly that there is only one possible technology to get survival services, namely wheat production (which is called "income"). But why would there not be another one? As an example, it may happen that the concerned individual knows that he can survive by extracting roots from the soil, the taste of which he does not like very much, but the nutritive value of which is indisputable. So long as wheat is not expensive (in terms of time) in comparison with roots, he prefers to eat wheat. If the opportunity cost of wheat production increases too much, he will certainly consider possible substitutions between wheat, roots, and leisure.

It may happen that shifting to another consumption pattern cannot be done immediately, since one has to find the most productive field of roots, or to invent suitable instruments to extract the roots. Therefore, during some period of time, the individual may increase his production of wheat in order to survive and to prepare the change in technology. But this is also saying that the existence of the income effect is due to two specific assumptions: The existence of some subsistence level and the existence of transfer costs when shifting from one activity to another one. Now, if the individual could have forecast the relative price change between wheat and leisure, he would certainly not have waited until the last moment, which obliges him to increase his supply of work in order to produce wheat. He would probably have decreased his leisure time earlier in order to prepare the new survival technology. Because of the increasing price of wheat relative to roots, there is a substitution effect between both these goods which make it possible to meet in different proportions both targets (survival and gastronomic pleasure).

The apparent appearance of an income effect is due to a model which has been badly specified and surreptitiously adds assumptions which can be interpreted as the introduction of an exogenous event in a world in which there are rigidities of a technical or institutional nature. Choices are then reshuffled and, during a transition period, what is named the income effect may appear in certain circumstances, as the result of a search for minimizing adjustment costs until the process of change in activities has led to all desired substitutions.

The above remarks can be reconciled with traditional statements of microeconomics. Let us take the traditional figure which is used to illustrate the existence of both the substitution and the

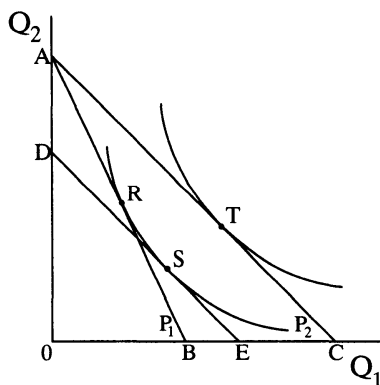


Figure 1

Source: James M. Henderson and Richard E. Quandt, *Microeconomic Theory* (New York: McGraw-Hill, 1958), p. 26.

income effects (figure 1).⁴ The initial equilibrium position of a “consumer”⁵—who has to choose between two goods, Q_1 and Q_2 , for a relative price P_1 —is point R. If the price of Q_1 decreases, the new budget constraint is AC and the equilibrium point becomes T. Now, one can obtain this later point by a formal splitting of the path from R to T into two paths: The path from R to S represents the substitution effect (pure relative price change, the utility level being maintained constant), and the shift from S to T represents the income effect (the decrease in the price of Q_1 corresponding to a gain in the purchasing power of income). Such a presentation does not help to clarify an important aspect of the problem, namely that the rotation of the budget constraint from AB to AC implicitly assumes that the consumer holds a stock of goods Q_2 equal to OA, so that the relative price change between Q_1 and Q_2 does not affect the position of point A: For a stock of goods Q_2 equal to OA, the individual can obtain a different (higher) quantity of Q_1 . On the contrary, if the individual was holding (or producing) good Q_1 , it would be point B which would

⁴Figure 1 is extracted from the classic textbook by James M. Henderson and Richard E. Quandt, *Microeconomic Theory*. But a similar graph can be found in most microeconomics textbooks.

⁵Let us use this traditional concept, although it induces the danger of splitting a human being into different, non-coordinated, parts (the consumer, the producer, the taxpayer, etc.).

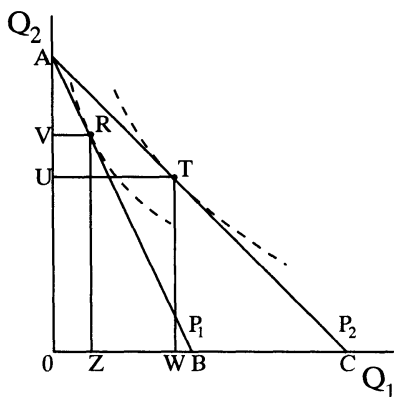


Figure 2

stay at the same place and the budget constraint would then cut the Q_2 axis at a point lower than D . Total utility would thus diminish. The result is perfectly logical: If the individual supplies Q_2 and demands Q_1 , a decrease in the relative price of Q_1 (increase in the relative price of Q_2) leads to the transformation of more Q_2 in goods Q_1 . The graph can then be interpreted from three different points of view.

First Interpretation

The relative price change reflects a technological change. Thus, with the same quantity of work, OA , an individual can obtain a greater quantity of wheat (OC instead of OB). The figure then does not represent the choices of the abstract "consumer" of textbooks, but the choices of the individual who *acts* (for instance Robinson alone on his island). If the productivity of labor is increasing, the individual will produce more wheat. On figure 2, OA represents the number of available hours per day, namely 24 hours. When the relative price is P_1 , the amount of work is equal to AV , the quantity of leisure to OV and the quantity of wheat produced to OZ . When the price of wheat in terms of work hours shifts to P_2 , work increases (AU), leisure decreases (OU) and the quantity of wheat produced increases (OW). The marginal sacrifice which is necessary to obtain one more unit of wheat having diminished, one substitutes wheat to leisure. There is a pure substitution effect.

Second Interpretation

Figure 2 now represents an exchange economy. The individual can obtain wheat (Q_1) by selling tomatoes (Q_2) which he is producing. Given the existing techniques and the limitation of his available time, the maximum quantity of tomatoes he can produce is OA. If the wheat price decreases from P_1 to P_2 (the price of tomatoes increases), he will sell more tomatoes to get wheat: On figure 2 his sales of tomatoes increase from AV to AU and his consumption of his own tomatoes decreases from OV to OU. His income does not change if it is measured in terms of tomatoes; it increases in terms of wheat. But there is only a process of substitution between both commodities and no income effect.

Third Interpretation

Figure 1 could be interpreted as representing the *partial* behavior of an individual *only* in his role as a consumer. He is a producer of another commodity, Q_3 , which is not represented on the figure, and he demands Q_1 and Q_2 . When the budget constraint AB is rotating to the position AC, one implicitly assumes that the relative price decrease of Q_1 in terms of Q_2 does not affect that valuation of Q_3 —the supplied good—in terms of Q_2 : The supply of commodity Q_3 in exchange for Q_1 and Q_2 would remain equal to OA (in terms of Q_2), which is debatable. In fact, there is a decrease in the price of Q_1 relatively to Q_3 , which ought to affect the supply of Q_3 . The new budget constraint is very likely situated between AC and DE (figure 1).⁶

These various interpretations are useful since they make it possible to clarify what is precisely the behavior of the individual who acts. But they may also help to demonstrate why the mainstream distinction between the substitution effect and the income effect is misleading. From a purely formal point of view, one can distinguish, as we have seen, the shift from R to S and the shift from S to T (figure 1). But these shifts do not correspond to any *actual* human action.

Let us take the first or the second interpretation.⁷ It is meaningless to say that point S corresponds to a pure substitution

⁶As an example, one may imagine that the budget constraint is rotating around point R.

⁷Both interpretations are very close to one another. They imply that, from a given stock of resources—for instance time resources—an individual can obtain a good either via a technological process of transformation he is doing by himself, or via a process of exchange involving his labor services or the outcome of his labor.

effect (with a constant level of utility), since point D has no meaning for the individual. In fact, he *has* resources equal to OA and there is only a substitution effect, expressed by the rotation of the AB line to AC: Given the time resources he has, substitutions are possible along the budget constraint and these substitutions depend on the relative price between Q_1 and Q_2 .

In the third interpretation, one cannot determine the value of the so-called income effect as long as one has not made clear what are the actual substitutions between the quantity of good Q_3 , on the one hand, and the quantities of goods Q_1 and Q_2 on the other hand. But this is precisely saying that there is no income effect, and that there are only substitution effects between several possible uses of resources. Let us take the case of an individual who is choosing, at some point of time, a given allocation of his resources, specially as regards his time resources, to obtain a certain basket of goods, among which leisure has to be considered. To accept sacrificing an additional unit of leisure, he necessarily has to get compensation by obtaining a greater quantity of other goods. If ever there is an increase in the market price of time (a decrease in the price of other goods), it creates purely and simply a substitution effect.

The general belief in the existence of an income effect partially stems from an artificial separation between consumption activities and production activities. This distinction is usual in microeconomics: The theory of consumption and the theory of production are founded on different grounds and different behavioral assumptions. In fact one does not supply a good without demanding another good at the same time, so that the decision to produce and to supply cannot be separated from the decision to demand and to consume. By cutting, for instance, decisions related to consumption or decisions related to work from other decisions, the traditional theory implicitly maintains as constant certain variables which cannot be maintained as constant. It considers, for instance, the choice between two consumption goods, as if the whole set of activities was not implied. A specific assumption concerning choices made about these other activities is then called the income effect. As we have seen, a change in the relative price between two commodities has consequences which depend not only on the choices made by an individual about these commodities, but about the whole set of possibilities open to him.

In mainstream microeconomics, the income effect and the substitution effect are presented as similarly general effects. In fact, the substitution effect is the only one that actually exists. It

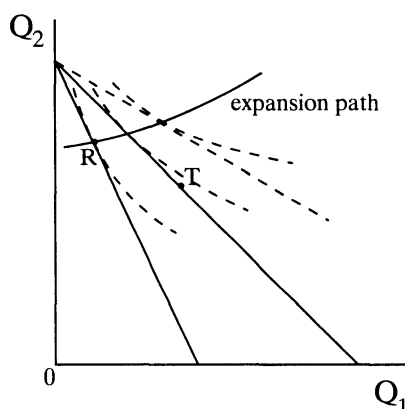
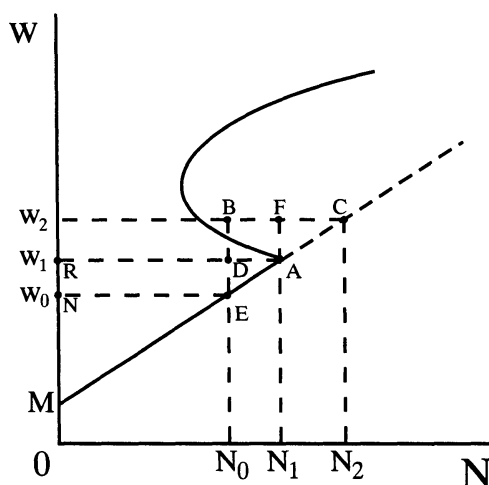


Figure 3

may appear that something close to the so-called income effect appears under specific assumptions when one adjusts from one equilibrium point to another one. However, this effect, which describes a specific adjustment path, is only transitory and it does not necessarily exist. This difference between both effects has important consequences. It means, for instance, that the Laffer effect necessarily exists: An individual shifts from an activity which is more heavily taxed to other activities. However, the process of adjustment may not be instantaneous, so that one may have the feeling that people react contrary to what the substitution effect would lead them to expect. However, this effect, if it ever exists, is necessarily a transitory and secondary phenomenon.

From a formal point of view, one can draw an expansion path so that the quantity of labor is decreasing as long as its price is increasing (figure 3), but this is nothing else than a graphical representation. Now, a graphical assumption does not give any information on the real motives of human behavior. The latter has to be explained by the law of decreasing marginal utility which is in reality a theory of human choices founded on rational logic. If one believes—as we should—that all reasoning in the social sciences has to be coherent with rational logic, it just means that one must get rid of the graphical or mathematical appearances which are inconsistent with this logic.

**Figure 4**

Appendix

Is a Backward-Bending Supply Curve Possible?

As we mentioned in footnote 3, an interesting question can be raised: Is it consistent to admit that both the income effect does not exist and that, however, the supply curve (for instance for labor) can be locally backward-sloping? To try to solve this question, let us take the case of an individual who is going up his supply curve when his real wage increases (figure 4). His supply of labor then shifts from E to A when his real wage shifts from w_0 to w_1 . This increase in supply obviously corresponds to the law of diminishing marginal utility: In order to give up one additional unit of leisure, the individual wants a higher real wage as a compensation for his loss of utility. This is exactly the meaning of the supply curve.

However, one has to clarify the distinction between the marginal return and the average return. Let us assume, as an example, that the supply curve on figure 4 represents the daily supply of labor of the individual. At point A, he works during 10 hours for an hourly wage of \$1, so that his daily return is \$10. He considers that it is worthwhile working one more hour only if this additional hour is paid at least \$2, which means that he wants at least an income of \$12 for 11 hours of work. From his point of view,

it is exactly equivalent to get \$2 for the marginal hour, the other hours being paid \$1, or to get a higher average hourly wage—in our example \$1.09—under the condition that he works 11 hours and not 10. If his job is totally specific—there is no possible substitution with other works—the price of successive hours can be differentiated and the employer may be ready to pay more for the additional hour.⁸

Now, if we consider a market situation with substitutable workers, such a differentiation of wages according to the number of hours worked within a day is not possible, so that the supply curve of figure 4 represents the amount of work hours offered for any hourly (average) real wage. Let us anyhow consider the behavior of one given worker. Let us assume that he is at point E when the real wage is equal to w_0 . The precise meaning of this point is the following: Any wage lower than w_0 would be insufficient to compensate the individual for the disutility of an amount of labor equal to N_0 . He needs at least w_0 or more. However, if the market wage is w_0 , he cannot get more than w_0 . Now, if the market wage rate increases from w_0 to w_1 , the preferred point is A. As there is no wage differentiation, the new wage is paid not only on the marginal hours ($N_1 - N_0$), but even on those hours which were already worked when the real wage was w_0 , namely N_0 . The change from w_0 to w_1 thus represents the minimum increase in the *average* wage rate which is necessary for the *marginal* return thus obtained to be considered as a sufficient compensation for the increased disutility of work.

Under the traditional neo-classical approach it would be said that the individual got a surplus equal to MEN and that the increase in the market wage brought him an additional surplus equal to NEAR. In fact, the individual was ready to offer N_0 for a wage equal to w_0 . Now, he can obtain w_1 for this amount of work, so that he gets a sort of windfall profit equal to DENR; and he also gets a marginal surplus equal to EDA. For reasons linked with the distinction made above between the average and the marginal wage rate, the existence of this surplus can be disputed: One might say that the increase in the average wage rate ($w_1 - w_0$) is just sufficient to allow the individual to get the minimum marginal wage rate he wants in order to offer additional work

⁸There is always a certain degree of specificity in the employment of a worker. For instance, as transaction costs do exist, an employer will prefer paying more for extra hours by a worker who is already employed in his firm than hiring an additional worker.

time (from N_0 to N_1). Therefore, we cannot quantify something like a surplus. But we can be certain that point A is preferred to point E. For a wage rate equal to w_0 the individual did not want to work more than N_0 . An increase in the average wage rate necessarily means an increase in the marginal rate, thus inducing him to work more: He prefers A to D. This is the rationale for the upward-sloping supply curve.

This discussion on the very meaning of the supply curve may help us to decide whether this curve can become backward-sloping at some point, for instance at point A. If such a situation exists, it means that, if ever the wage increases from w_1 to w_2 , the supply of labor decreases from N_1 to N_0 (instead of increasing to N_2). This is exactly what is assumed by those who believe in the existence of an income effect: As the individual gets more money for any work hour, he works less hours. Is that possible?

Saying that the curve is backward sloping, as represented on figure 4, is saying that point B is preferred to A.⁹ As we do know, point B is preferred to point D and to point E (the higher is the wage rate, for a given amount of work, the more satisfied is the individual). We also know that D was not preferred to A, but there is no reason for B not to be preferred to A. However, the real question is not knowing whether B is preferred to A, but knowing whether it makes sense saying that B is on the supply curve. We explained above why A is preferred to D (or, at least, not less desired). Exactly the same reasoning has to be made as regards point B: If the wage rate increases from w_1 to w_2 , the individual desires a point which is not on the left of point F (he prefers for instance point C). Therefore, although it may be true that B is preferred to A, C is preferred to B. It means that point B is not a point that the individual may *actually* choose.

Another way to look at this problem is as follows. As we saw above, the supply curve is nothing but a frontier between points which are not desired (those under the curve) and those which are accepted (those which are on or above the curve). At point E the individual declines all wage rates lower than w_0 and accepts all higher wage rates. At point B, the individual is supposed to decline all wage rates lower than w_2 and to accept all higher wage rates. But it does not make sense to assume both that wage rates higher than w_0 are accepted for an amount of work equal to N_0 , and that wage rates under w_2 are declined for the same amount of work.

⁹If B was not preferred to A, it would just mean that the supply curve cannot go through B.

Hayek: Some Missing Pieces

Anthony de Jasay

Has Hayek a theory of the social order, a comprehensive view of society as a determinate and self-reproducing system, in the same way as Hobbes or Marx, though perhaps no one else can be said to have an (albeit simpler) theory of the social order? The question has some weight, since if it is true that Hayek is the most influential twentieth-century advocate of liberal government, the strength and penetration of normative liberal doctrine must to no small extent depend on the persuasive force of his positive social theory: the less coherent it is, the more modern liberalism is vulnerable to erosion and invasion by incompatible elements.

It is hard, probably harder than it looks at first sight, to be sure what we mean by a social order. Hayek himself mostly uses the term "order" in the context of his ideas about the spontaneous order. However, he intends order as such to mean something akin to a pattern or schema, such that by looking at a part or a phase of it, we can make good enough conjectures about the whole (1973, p. 36). It is as if, by finding a piece of a jigsaw puzzle that depicts a cloven hoof, we could tell that the puzzle, if it were all fitted together, would in all likelihood represent a cow, a goat, or perhaps the devil, but certainly not a lady with her parasol.

My thesis, putting it at its sharpest, is that Hayek shows us pieces of a complex jigsaw that are intriguing and inspiring, but they do not suffice to let us predict whether, if we had all the pieces, the completed puzzle would show a cow, a goat, or the devil. If I am anywhere near right, he has no complete theory of the social order to back up his liberal recommendations. They are in any case a little incongruous, since he predicts that whichever kind of order is superior will duly prevail through group selection,

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hence recommending it is somewhat out of place even if we could know that it was not superior, and *a fortiori* if we could not. Does Hayek show us how to tell?

There are, it seems to me, at least three areas of the puzzle where he has left out important pieces, and where pieces he did place do not really fit together. One is the distribution of the social product, the other is public goods, and the third is the spontaneity of the very spontaneous order that gives the whole puzzle its character.

Making the Free Society Attractive

One of Hayek's most widely known normative ideas is that there can be no such thing as social, or distributive, justice. The concept is simply a category mistake: "there can be no distributive justice where no one distributes" (1978, p. 58). It is certainly doubtful whether one can defend, from arguments drawn from justice, the popular belief that certain participants in arm's length transactions are responsible for the distributive shares that accrue to other participants; that rich employers should pay higher wages to poor employees, and that supermarkets should not drive small shopkeepers out of business.

Hayek holds, reasonably enough, that the terms of voluntary exchanges are determined objectively, they are not matters of anybody's good intentions, nor of what richer parties think the poorer parties ought to be getting: nobody distributes. What he calls the "market order" entails a distribution that is neither just nor unjust. It is, however, efficient. As such, it has instrumental value and can serve other valuable ends. These ends, for Hayek, cluster around the maximum chance for the randomly chosen individual to conduct his own life successfully. Distributive justice does not figure among the ends the riches created by the free market order should serve. A long line of others, from John Stuart Mill to A. Mueller-Armack and beyond, have of course taken the well-known position that the market order conforms to "economic laws" and is neither just nor unjust, but the wealth its efficiency creates can be devoted by "society" to satisfying, among other things, the requirements of distributive justice.

Both Hayek's and Mill's position, different as they are from each other, stand in sharp contrast to the more rigorous thesis that the market order does in fact produce a distribution that is just if the distribution of ownership in a selected initial position was just, and subsequent exchanges were free from force and fraud.

Hayek, in his insistence that the whole issue is categorically irrelevant to the market order, leaves a blank where others put distributive justice. Its missing piece is an unintended invitation for them to fill the void.

However, while disputing the very sense of the concept of distributive justice, Hayek is nevertheless concerned with distribution. He notes that modern societies without exception do organize welfare states,—is this cultural selection at work?—and that this evolution is consistent with respect for “abstract rules of just conduct.” It is more than a historical shift in the spontaneous order, more than an unintended result of human actions directed at other purposes: deliberately helping it along is a positive “task of the defenders of liberty” (1960, p. 259). “[T]hough a few theorists have demanded that the activities of government should be limited to the maintenance of law and order, such a stand cannot be justified by the principle of liberty” (*ibid.*, p. 257). The welfare state is a conglomerate of many diverse elements, some of which may “make a free society more attractive” (*ibid.*, p. 259). For one, government must provide for “the minimum of sustenance” for the helpless, and this minimum should be, not absolute, but relative and rising with the general standard of living (*ibid.*, p. 285). For another, such provision cannot be confined to the deserving poor, but must be extended to all (*ibid.*). As a corollary, it becomes the recognized duty of the public to compel all to insure or otherwise provide against the “common hazards of life” (*ibid.*, p. 286).

It is clear enough that a guaranteed minimum income, once granted, will not for long be kept down to the level of absolute physical subsistence, but will creep upwards and take on features of a defense against “relative deprivation.” It is also clear that if people no longer have an incentive to provide against bad luck and old age, a case is created for compulsory social insurance. What is less clear is why Hayek considers, not only that these things are bound to happen, and to happen on a scale that expands with economic progress, but that it is no bad thing that they should. Their object is not to conform to any moral imperative, whether of compassion, fellow-feeling, let alone distributive justice, which he rejects as the product of muddled thought. Nor is it because a distribution brought about by the market order can, along the lines of Benthamite and Pigouvian utilitarian thought, be “corrected” to generate a larger sum of aggregate utility, for Hayek to his great credit never embraces the idea of interpersonal aggregation of utility. In fact, his advocacy of such

quintessentially redistributive measures as the guaranteed minimum income, is accompanied by injunctions that such measures must not have a redistributive purpose! Barring both justice and utility as their object, all he leaves us with by way of justification is that some redistribution, (if it is not intended to be redistributive) "makes a free society more attractive."

Why, however, should one seek to *make* the free society more attractive? Is it not going to prove itself more attractive anyway in cultural selection, by its superior aptitude to prevail over less free societies (assuming that the ambiguities of what it means to "prevail" have been resolved)? Manifestly, Hayek thinks it can do with a bit of help. Embellished by the institutions of a moderate welfare state, presumably more people will opt (vote) for it, or fewer people will desert it for the totalitarian alternatives he abhors. Does this mean, however, that the free society is not the social order that prevails because its intrinsic properties make the groups that adopt it more numerous?—does it mean that the free society is a social order that prevails over others if and because its properties are adjusted to what people from time-to-time find attractive (even if it does not make the groups adopting it more prosperous and numerous)? If the latter is the case, what distinguishes Hayek's social theory, or at least the part he has made explicit, from the theory of democracy as the system where social choices are made by adding together votes for alternatives being acknowledged as superior, not by virtue of its intrinsic capacity to make its host group grow, but by virtue of attracting more votes?

Enough pieces are missing from the jigsaw to permit either interpretation, though Hayek would no doubt protest quite sharply against his cultural selection being, by a piece of impudent distortion, equated with procedural democracy. However, his missing pieces leave room for a "conglomerate of elements" that may well be mutually inconsistent, part cow, part goat, part devil, leaving it to the spectator to call which is which. What exactly is a free society? On what grounds can Hayek predict that it will prevail? Above all, what is the point in its functioning of the unplanned interplay of individual decisions whose collective effects are unintended, and what of consciously formed collective choices carried out by the agency of the state? Hayek's *obiter dicta* on redistribution seems to me to leave the question largely open. This void is only deepened by his treatment of public goods and the role of the state in providing them.

The Pivot Between Ordered Anarchy and Statism

There is a measure of unself-conscious irony in Hayek's call for a "much more clear-cut attitude towards [public goods] than classical liberalism ever took" (1978, p. 144). Classical liberalism would entrust to the state the provision of only one, very special, public good, to wit, "the enforcement of general rules of just conduct" (ibid.). There is, however, a multitude of other "highly desirable" public goods that "*cannot* be provided by the market mechanism" because they "*cannot* be confined to those who are willing to pay for them" (ibid., my italics). Therefore the means for providing them are either raised by the coercive power of the state, or not raised at all. The liberal may wish that the way be left open for private enterprise to provide them if a method is discovered for it to do so (1978, p. 145), but pending such discoveries, it is legitimate and indeed mandatory for the state (or local authorities) to tax society in order to enable it to enjoy these highly desirable things.

Is Hayek's position "much more clear-cut" than that of classical liberalism? Public goods are of central importance to social and political theory. If they *cannot* be provided in voluntary transactions, but we must and want to have them, the state is necessary and Pareto-superior. If they *can*, ordered anarchy is possible, and the state usurps the space that, in its absence, would be filled by Pareto-superior, voluntary transactions. It may be held that property and contract enforcement is a necessary condition of voluntary transactions. It may be further held that such enforcement is a public good only the state *can* provide. This, in brief, is the classical liberal position of the minimal, protective state. It may or may not be good theory, but it is clear-cut enough. More recent theory suggests that even contract enforcement *can* be provided voluntarily by those who expect to benefit from respect for their contracts, and there is no evidence that organizing a state for the enforcement is more efficient, less costly in terms of total transaction costs, than its decentralized, private provision. In this view, even the minimal, classical liberal state is a needless blemish upon ordered anarchy, let alone the modern liberal state subsumed by Hayek, that has a mandate to tax society for the sake of providing goods and services as long as they are both public and desirable.

Hayek seems strangely unaware of the pivotal role of public goods theory between ordered anarchy and statism, and treats it

cursorily. Hardly realizing its consequences, he accepts the textbook division of the universe of goods and services into two exogenously determined halves, public and private. Private goods are *excludable*, hence *can*, public goods are *non-excludable*, hence *cannot* be produced in voluntary transactions, where goods are forthcoming against equivalent resources or not at all.

In reality, there is no such exogenous division. Nothing is "excludable" without further ado; for nothing can be sold without the seller incurring costs to exclude from access those who would not pay the price. Exclusion cost is no more avoidable in a good destined to be sold than is the cost of production or transport. Everything is excludable at *some* cost that may be high or low, depending on a host of circumstances, of which the physical characteristics of the good is only one. Over the universe of goods, exclusion cost is a continuous variable. Where society draws the dividing line between public and private goods is an endogenous decision, for social theory to define. Providing a good publicly saves exclusion cost. This advantage may be partly, wholly, or more than wholly offset by costs arising from wasteful use of the good the consumer can have without paying for it, and from other, less direct risks. If social choice were usually "collectively rational," goods would be provided publicly if the saving of exclusion cost outweighed the disadvantages and added costs of publicness. As it is, whether a good becomes public, or stays private, is decided by the "public" through a political process that is not set up, and is quite unlikely, to be "collectively rational" in the above sense. Certain goods become public goods because it is held that people ought not to *have* to pay to have them, others because they *won't*. All this is well understood now, and was already understood when Hayek expressed his view that the state ought to provide "highly desirable public goods."

The half-universe of public goods is in fact one *we* fill. It thus comes to contain innumerable goods that are desirable *if* and because they are public, so that their marginal cost to the individual consumer of the good is nil or imperceptible, and they amount to a "free lunch," to something for nothing. If so, the observation that they are highly desirable is a product of circular reasoning. As long as the good remains a good, (i.e., short of saturation) every potential consumer of it will readily vote for its public provision if it is not yet so provided, and for its provision on a more generous scale if it is provided but sparingly. Where should the line be drawn? How should a liberal society count the

votes for more of everything, and the votes against the taxes to pay for it? Whichever way it counts them, it has relatively little chance to stay liberal.

There is only a missing piece in Hayek's theory where the principles should be that a liberal society would adopt to draw the line between public and private, to keep it there, and stay liberal in the process. Unlike classical liberalism that confines the state to the provision of a single public good, law enforcement, Hayek's social order is less, rather than more, clear-cut: it permits, if not positively mandates, the state to produce any number in any quantity; the state's place in society is consequently *ad hoc*, open-ended, indeterminate, and no amount of dire warnings against socialism, fatal conceit, and loss of freedom will make it more determinate.

A theory of social order is incomplete if it makes no serious attempt at assessing the long-term forces that make the public sector grow or shrink. This can hardly be done without relying on a defensible theory of public goods. Hayek feels no necessity for one. Strangely, the question seems to have held no interest for him. By way of making good the missing piece, one must insert some account of the conditions under which goods will remain private, produced only for restricted access against payment in full, as opposed to the conditions that will favor their production for unrestricted access by any member of a given public, with the necessary resources being raised either by voluntary association under contract, or by involuntary taxation. The relative weight of these three alternative solutions is perhaps the decisive influence on the extent to which a society is political ("politicized" is the pejorative word usually employed for it), shaping its life by collective rather than by individual choices. The question is of abiding interest to Hayek. He does not answer it, though he fervently wishes throughout his massive *oeuvre* that the answer should favor individual choice.

Who Enforces the Enforcement?

Why does it matter to Hayek, or anybody, whether an order is spontaneous or not?

The attraction of spontaneity is both moral and prudential. Though it is not clear whether Hayek saw more than instrumental value in it, he stressed that the elements in a spontaneous order "arrange themselves" rather than being arranged by "unified direction" (1960, p. 160). When the elements are human beings, their property and their choices, nobody's dispositions are

imposed on him by another's command. Everybody chooses for himself what seems to him the best, given that everybody else chooses likewise. All choices are interdependent, and made mutually compatible by property rights and their voluntary exchanges. None dominates and none is subordinated. This lends the order in question a moral *laissez passer*, while non-spontaneous orders, constructed by imposing some alternative on the participants by authority or the threat of force, are morally handicapped by their coercive element. If they are to pass for legitimate, they need to show some compensating merit. Spontaneous social orders, in other words, have a *prima facie* moral standing. Constructed orders must first earn it, or do without.

The prudential attraction of spontaneous orders springs from the belief, strongly held by Hayek and fairly well supported by historical evidence, that since the knowledge required for successfully designing a complex order is either irretrievably dispersed or latent or both, the constructed order runs a high risk of being inefficient if not grossly counter-productive.

Game theory calls "coordination game" an interaction where, if all or most players adopt the same norm of behavior (strategy), all get a payoff that is no worse and may be better than if they adopted different norms. Compliance at least weakly dominates deviation. Hayek's spontaneous order is at first sight a coordination game: he speaks of rules that, if they are generally observed, make all members of a rule-following group "more effective," "because they give them opportunities to act within a social order" (1978, p. 7, Hayek's italics). The rules are randomly generated, by analogy with genetic mutation. Some are positively selected in a process of "cultural transmission . . . in which those modes of conduct prevail which lead to the formation of a more efficient order" (ibid., p. 9), because the more efficient order helps the group living within it to "prevail" over other groups. A classic and appropriately Austrian example is the use of money, a more efficient "norm" or "rule" than barter. No member of the money-using group can do better by reverting to barter once most others trade against money. Compliance dominates deviation.

All would be well if Hayek confined his concept of the spontaneous order to cases of voluntary rule-following that are coordination games, i.e., where the emergence of the order depends on some members of a group adopting the same rule of behavior, but once they do, the order is self-enforcing: all members have a continuing incentive to adhere to it and can only do worse for themselves if they deviate from it. Patently, however, there are

important rules that do not function like this. Once they are widely followed, they generate an incentive for the individual member of the group to violate them. Perhaps the simplest "spontaneous" order, as Hayek would call it, that operates in this perverse way is the queue. Every member of the group that has a rule of queuing rather than milling around and pushing each other, gains from every other member following the rule. However, the member who jumps the queue gains more than the one who stands in it; he can abuse the decent restraint of the others. Queue-jumping dominates queueing. The same is true of the spontaneous order that is at the center of Hayek's theory, the "market." It will not function to the advantage of every participant unless at least two key rules of conduct, respect for the property of others and performance of reciprocal promises, are widely followed. However, if they are followed by some, this *ipso facto* tempts others to steal, usurp, trespass, and default on contracts. These favorite deviations offer a higher "payoff" than compliance with the rules, which of course renders compliance a potentially self-destructive mode of conduct. Neither queueing, nor the market, nor many other ostensibly spontaneous orders are truly spontaneous, i.e., coordination games along the benign, self-enforcing lines of using money, speaking the same language or driving on the same side of the road. They are thinly disguised or overt prisoners' dilemmas.

Though he steers clear of game terminology, Hayek is quite aware that this is so, and that those of his putative spontaneous orders that are in effect prisoners' dilemmas, and have deviation as their dominant strategy, need something more than the efficiency of their rules of conduct if they are to survive. Not being self-enforcing, they need some support from rule-enforcement. At one point, he suggests that the successful group, though it does not realize to which rule it owes its superiority, "will accept only those individuals as members who observe the rules traditionally accepted by it" (1978, p. 10). Hayek's group, then, expels robbers and cheats. It uses ostracism to punish and deter violations of its rule. Ostracism is one of the several time-honored voluntary enforcement mechanisms that have been employed, since the dawn of civilization, to ensure the survival of beneficial but fragile conventions, including adherence to the customs and laws of property and contract, where the convention itself generates an incentive to break it. Ostracism, like other defenses against violation, can thus be understood as an auxiliary convention, a satellite serving the fragile, nonself-enforcing main convention.

In the absence of such supporting conventions, the emergence and widening of the division of labor, trade, and capital accumulation would be incomprehensible. So would be those cultural, legal, and political institutions whose material wherewithal was produced by these developments.

There is some excuse for holding that a spontaneous order that needs to be enforced is still a spontaneous order, if its enforcement itself is spontaneous, the norm of a voluntary convention. Its adherents follow it by voluntary choice: they "prefer" to carry out costly and often unpleasant actions to exclude, punish, and deter violators, and do not need to be threatened with exclusion, punishment or other deterrents to be induced to do so. More realistically, they may not actually "prefer" to act against violators, but wish to avoid disappointing the conventional expectations of fellow members of their group who rely on their help, and on whose help they wish to be able reciprocally to rely. (Splitting hairs, I am treating the threat of a sanction and the risk of disappointed reliance on an expected benefit, as different in kind. If they are not, the distinction I seek to make between spontaneous and enforced enforcement becomes blurred, and difficult to sustain.)

It is, however, stretching spontaneity beyond the breaking point to call an order spontaneous if it depends on "enforced enforcement," i.e., if members of the group or a subset of them punish and deter violators of the rules, not because they think it is in their reciprocal interest or simply because it is right to do so, but because they are threatened with exogenous sanctions if they fail to do it. In the latter case, with enforcement at one level depending on enforcement at the next higher level, who ultimately enforces enforcement?

Hayek is convinced that as civilization evolved, the scale of human coexistence changed by an order of magnitude, from small to great. There was a passage from the "face to face" society of small groups to the "Great Society" of the large group. Members of the small group were related to each other by ties of many kinds, and these relations gave rise to group solidarity. Members of the large group are unrelated and anonymous. They succeed to profit from the division of labor and the economies of scale made possible in their "extended order," not by relying on personal relations of trust, reciprocity and sympathy, but by respecting a suitable set of "abstract rules of just conduct."

Who, however, enforces the rules of just conduct? Respect for property and contract are not self-enforcing. On the contrary, they generate incentives for their own violation. Failing reliance on

reciprocity, there is no voluntary convention for enforcement, except for saying that in classical liberal doctrine it is the sole field where coercion is legitimate (1978, p. 109). In fact, if the Great Society works the way he believes it does, anonymously and at arm's length, enforcement cannot be supplied spontaneously, for it is undermined by the free rider problem and perverse incentives in exactly the same way as property, contract, and other prisoners' dilemmas. Enforcers must be coerced to enforce. Calling a spade a spade, one would say instead that enforcers must be paid to enforce, and for this to happen taxpayers must be coerced to pay taxes. There must be at the end of a regress of enforcement-enforcers, an ultimate, sovereign enforcer. There is no doubt whatever that when talking of the need to enforce rules of just conduct, it is the state that Hayek saw as the necessary, sufficient, and legitimate enforcer.

Here, too, vital pieces are missing from the jigsaw. Take the market order whose unique efficiency helps the large group to prevail. It is a web of exchanges of all kinds, most of them indefinitely repeated. In some instances, the two sides of the exchange are performed simultaneously. These are in most circumstances self-enforcing, and the parties to them might as well be anonymous (though usually they have names). When, however, performances are not simultaneous, executory contracts of some complexity are often required, and they are not self-enforcing. How could strangers with no name and no established reputation enter into such contracts with each other, the state's enforcing facilities notwithstanding? Do they ever do so? Who will be prepared to perform first when facing a nameless unknown? Yet, how, if you are anonymous, can you do any business at all except by performing first, unless somebody, broker, banker, insurance underwriter, middleman, lends you his name for love or money? In the Great Society, most people may well be anonymous to most others, because they have no profitable occasions to get acquainted; but since they have no such occasions, it does not matter much that they are anonymous. However, few people or none can remain anonymous to the handful of others with whom they interact in making the market order go round. That handful gets selected spontaneously, and it is always a "small group." There *is* no anonymous, large-group interaction because it would be too numerous to permit it. Its individual members interact in several "small groups" whose membership may be partly overlapping, partly different. Thus, each small group is open to other small groups and memberships are intermingled at the edges.

The truth of the matter about the Great Society is that few or no large groups are completely homogenous. Their membership can always be disaggregated, sorted into smaller groups by a variety of selection criteria. As the large group is always *the sum of small groups*, the converse goes as well: small groups can always be aggregated to form what is, from a chosen point of view, a large group. Its dimensions are in the eye of the beholder.

If one chooses to see it only as a large group, as Hayek does, something must be said about the existence problem of the non-spontaneous order which its specifications entail: if Hayek won't tell who enforced the enforcement, others will expound it with a vengeance.

For the effect of leaving out pieces from the jigsaw puzzle of social theory is that the vacuum is only too naturally filled by a false conception of the state. This conception is hardly compatible with liberal principles. Indeed, it is hardly compatible with the very market order that Hayek wants to be spontaneous, and culturally selected to make groups that adopt it succeed and groups that deliberately deform it, fail. For although it does not logically exclude other alternatives, Hayek's theory leads straight as an arrow to the facile conclusion of an indispensable state that alone upholds property and contract. They exist by the grace of society acting through the political authority. They function as society chooses that they should. The massive chorus we have been hearing from the left and center, chanting that property is a bundle of separable privileges granted or withheld by society, and the freedom of contract is subordinate to public policy, is vindicated by the very theory that should have prevailed over such a chorus with a clearer, a more powerful voice.

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Vertical Restraints and the Retail Free Riding Problem: An Austrian Perspective

David W. Boyd

Vertical restraints are restrictions that manufacturers place on the retailers who carry their products regarding to whom those dealers may resell the goods, or on the retail prices they may set. Although there exists a variety of economic explanations as to why rational manufacturers might wish to impose such downstream restrictions under different market conditions, perhaps the one which garners the most attention within the economics profession is that vertical restraints can help combat free riding problems within the retail sector.

The examination of vertical restraints as important pieces of the manufacturer's arsenal against free riding, however, like much of industrial organization based on neoclassical price theory, is steeped in equilibrium analysis. Ignored almost entirely in the literature is the dynamic nature of the free riding problem, and the critical roles that knowledge and discovery play in its evolution. Moreover, because the leading analyses consider a closed world of manufacturers and retailers in an isolated state of equilibrium, there exists no room for entrepreneurial activity.

In this article, I apply standard Austrian economic concepts—including the competitive market process and the roles played by knowledge, discovery, and the entrepreneur—to the analysis of vertical restraints in combating the retail free rider problem. The exposition is emphatically not meant as a thorough and exhaustive analysis of all vertical restraints from an Austrian viewpoint. Nor do I propose any new theoretical rationales for the employment of vertical restrictions. Rather, the paper

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seeks to establish two points. First, an Austrian analysis of retail free riding provides meaningful insight into the problem beyond that incumbent in conventional neoclassical equilibrium models. Second, much of the often bitter debate over the welfare implications of vertical restrictions, by ignoring the market process, is substantially misguided. By presenting vertical restraints and retail free riding in an Austrian light, perhaps those who debate the welfare properties of vertical restrictions will begin incorporating the importance of the competitive market process into their arguments.

The first section of the paper briefly outlines the general retail free riding problem and discusses the standard analysis of how it can be fought with vertical restraints. The next section critiques the neoclassical analysis of vertical restrictions in combating free riding and applies the tools of Austrian economics to the problem. The third section addresses welfare, and the current policy debate over vertical restrictions. The final section provides commentary and a brief conclusion.

The Retail Free Riding Problem

A newly introduced, high quality product is not guaranteed market success. To compete successfully, the manufacturer must inform potential consumers of the product's existence, as well as supply at least a modicum of information regarding basic product characteristics, attributes, or capabilities. Although advertising can and often does effectively convey much of the most basic product information to potential consumers,¹ not all demand-enhancing, product-specific information can be efficiently provided by manufacturer advertising, or by other manufacturer actions. Rather, certain information is best imparted at retail establishments, including information gleaned from product demonstrations or especially knowledgeable salespersons. Because such pre-sale information is costly, the information-supplying retailer must recover the costs of information provision through the markup over its wholesale cost.

However, nothing prevents a retailer, or set of retailers, from opportunistically abandoning the pre-sale information services, thereby lowering cost, and luring consumers away with the resultant lower retail prices from the information-providing dealers.

¹See the thorough examination in Robert B. Ekelund and David S. Saurman, *Advertising and the Market Process: A Modern Economic View* (San Francisco: Pacific Research Institute for Public Policy, 1988).

That is, rational consumers can freely absorb the information offered by a "full-service" retailer, yet purchase from a "no-frills," discounting dealer to receive a lower retail price. In effect, these no-frills dealers can "free ride" on the information-supplying retailers. If this free riding activity continues unchecked, the full-service retailers, no longer able to recover their information costs due to reduced sales volume, will be forced to discontinue information service provision. Because these services are demand-enhancing, elimination of or reduction in the level of services offered at retail is harmful to the manufacturer.

Not all retailer-provided services are subject to this type of free riding. If the retailer is able to charge separately for the demand-enhancing services it offers, the additional costs associated with service provision can be adequately covered by a separate service price. For example, some specialty tennis retailers allow a customer to take one or more tennis racquet models home overnight to try out the equipment at the customer's leisure. If these high-service dealers charge separately for this service, as many do, then even if a customer discovers one model which she particularly fancies yet chooses to purchase it from a discounter at a reduced retail price, the specialty store will still be compensated for the service it offered. No free riding will have occurred.

Moreover, free riding will only be a problem to the extent that the retail services are offered *prior* to the sale. Post-sale services, since they are provided only to paying customers, are not subject to free riding. For instance, a home improvement store which provides substantial assistance to customers during the remodeling process *after the products have already been purchased* is likely to find free riding less of a problem than a retailer who only provides pre-sale services.

It is entirely possible that some subset of consumers will, over time, become fully informed and therefore find the information services offered by high-service retailers superfluous. Such customers will seek out discount retailers for their purchases. Nevertheless, so long as some not insignificant number of potential consumers still find retailer-provided information meaningful, free riding will remain a potential problem for those full-service dealers who provide complimentary pre-sale services.

The extent to which retail free riding is a pervasive and widespread problem is an open empirical question about which little has been written in the industrial organization literature. Free riding activity is not easily documented, and no systematic

inquiry has been made into the magnitude of the problem. The majority of the limited analysis which has been performed involves examination of individual litigated cases of vertical restraints.² Although the frequency and severity of retail free riding is uncertain, there is no question that the problem receives substantial attention in virtually every industrial organization textbook. If the resources of the profession devoted to the study of a particular problem serve as a proxy for its importance, then the retail free riding problem merits additional examination.

In any event, when retail free riding is of concern to a particular manufacturer, it has a clear incentive to undertake actions which can prevent, or at least ameliorate, the problem. One such set of actions is vertical restrictions.

Vertical Restraints and Retail Free Riding

It is the prospect of lower retail prices that entices consumers away from full-service retailers to discounting, no-frills dealers. The manufacturer can prevent such price cutting by imposing minimum resale price maintenance (RPM) on its dealer network.³ By setting a retail price floor below which no retailer may sell the

²See, for example, the discussion of the case involving Lenox china in V. Goldberg, "Enforcing Resale Price Maintenance: The FTC Investigation of Lenox," *American Business Law Journal* 18 (1980): 225-58; and H. P. Marvel and S. McCafferty, "Resale Price Maintenance and Quality Certification," *Rand Journal of Economics* 15 (1984): 346-59; or S. Oster, "Levi Strauss," in *Impact Evaluations of Federal Trade Commission Vertical Restraints Cases*, R. N. Lafferty, R. H. Lande, and J. B. Kirkwood, eds. (Washington, D.C.: Federal Trade Commission, 1984), an examination of the case of Levi Strauss jeans.

³Technically, RPM is a *per se* violation of the antitrust laws, under the standard set forth in *Dr. Miles Medical Company v. John D. Park & Sons Company*, 220 U.S. 373 (1911). The Supreme Court has, however, over the past few years, significantly narrowed the scope of *per se* illegal activity. See the Court's decisions in *Monsanto Company v. Spray-Rite Service Corporation* (1984) and *Business Electronics Corporation v. Sharp Electronics Corporation* (1988). In *Monsanto*, the Court ruled that a *per se* violation could not be inferred solely from evidence that a manufacturer had terminated a price-cutting distributor after having received complaints from the distributor's competitors. In *Sharp*, the Court went even further, holding that an agreement between a manufacturer and a dealer whereby the manufacturer would terminate any price-cutting dealer was not the same as an RPM agreement. Rather, *per se* illegality required an agreement between the manufacturer and all dealers. For a thorough legal history of RPM, see T. R. Overstreet, *Resale Price Maintenance: Economic Theories and Empirical Evidence* (Washington, D.C.: Federal Trade Commission, 1983); P. Ippolito, *Resale Price Maintenance: Economic Evidence from Litigation* (Washington, D.C.: Federal Trade Commission, 1988); or M. C. Katz, "Vertical Contractual Relations," in *Handbook of Industrial Organization*, Richard Schmalensee and Robert W. Willing, eds. (New York: North Holland, 1989).

product, the standard argument goes, the manufacturer deflects the ruinous price competition into non-price competition in information provision.

Of course, RPM can and is used for reasons other than combating the retail free riding problem. A number of other rationales for the practice have withstood scholarly scrutiny, and still receive substantive attention in the literature. For example, RPM may facilitate dealer and/or manufacturer collusion, serve as an aid to price discrimination, or provide an incentive device to promote the establishment of additional retail outlets.⁴ Nevertheless, the limited empirical record seems to suggest that, at least for litigated cases involving RPM, the practice is predominantly used to minimize free riding. Ippolito in her systematic examination of all public and private cases filed between 1976 and 1982 alleging vertical price restraints, finds that the collusion theories are plausible explanations for no more than 15 percent of all case filings, and an even smaller percentage of the private cases. Yet roughly 70 percent of the cases appear to be situations where retail free riding could have occurred. In fact, virtually all of the cases she examined are consistent with one or more of the "special services" theories of RPM.⁵

Resale price maintenance is not the only vertical restraint option open to the manufacturer. Alternatively, the manufacturer could remove any potential free riding activity by granting to a single dealer in each geographical market an exclusive territory. Since the retailer granted the exclusive territory is insulated from any potential free riders, the manufacturer's incentive to have information services provided is perfectly transferred to the dealer.

⁴A number of authors have written on these and other justifications for RPM. See, for example, the classic works of B. Yamey, "Origins of Resale Price Maintenance: A Study of Three Branches of Retail Trade," *Economic Journal* 62 (1952): 552 and *Resale Price Maintenance*, Yamey, ed. (Chicago: Aldine Publishing, 1966); or, more recently, G. F. Mathewson and R. A. Winter, "An Economic Theory of Vertical Restraints," *Rand Journal of Economics* 15 (1984): 27-38; or S. I. Ornstein, "Resale Price Maintenance and Cartels," *The Antitrust Bulletin* 35 (1985): 1-18; on the collusion theories, W. S. Bowman, "The Prerequisites and Effects of Resale Price Maintenance," *University of Chicago Law Review* 22 (1955): 825; or R. E. Caves, "Vertical Restraints as Integration by Contract: Evidence and Policy Implications," Harvard Institute of Economic Research Discussion Paper No. 754 (1980) on price discrimination; and J. R. Gould and L. E. Preston, "Resale Price Maintenance and Retail Outlets," *Economica* 302 (1965): 302-12 on the outlets rationale. For a thorough summary of all economic justifications for RPM, see Overstreet, *Resale Price Maintenance: Economic Theories and Empirical Evidence*; or Ippolito, *Resale Price Maintenance: Economic Evidence from Litigation*.

⁵Ippolito, *Resale Price Maintenance: Economic Evidence from Litigation*.

Neither of these vertical restraints, however, completely solves the manufacturer's free riding problem. Because consumers do not always make locational purchase decisions based solely on the quantity and quality of the information provided by dealers, the uniform retail prices guaranteed by RPM do not necessarily generate a pure incentive for dealers to provide the level of information manufacturers desire. In particular, residual free riding can occur, causing retailers to select a quantity of information provision strictly less than the manufacturer's preferred level.⁶ Since these information services are demand-enhancing, insufficient information investment by retailers reduces aggregate sales and hence manufacturer profitability.

On the other hand, the artificial elimination of retail competition spawned by the geographical restrictions associated with exclusive territories confers to the dealer sufficient market power to mark up retail prices accordingly. The higher retail prices constrict the manufacturer's derived demand, also reducing profitability.

The conventional analysis, then, suggests that the retail free riding problem must be fought with one of these two imperfect strategies. An Austrian insight into the problem and these two proposed remedies, however, reveals not only that the vertical restraint solutions are likely to be much less effective than the orthodox analysis allows, but that a third solution can, and often does, help mitigate the retail free riding problem.

Vertical Restraints and the Retail Free Riding Problem: An Austrian Critique

Knowledge

To compare the relative efficacy of RPM and exclusive territories in combating the retail free riding problem, and to implement the better strategy, requires that the manufacturer possess a set of market knowledge that is impressive in both its breadth and depth. Under RPM, the manufacturer must devise an optimal retail price, below which it desires no retailer to offer the product to consumers. To determine this retail price floor, the manufacturer must be thoroughly acquainted with the demand schedule for its product. But as Mises made clear,⁷ the manufacturer is

⁶See, David W. Boyd, "The Choice Between Resale Price Maintenance and Exclusive Territories," *Review of Industrial Organization* 8 (1993): 755–63, for a more extended analysis of residual free riding under RPM.

⁷Ludwig von Mises, *Human Action* (Chicago: Henry Regnery, 1966), p. 378.

unlikely to know the shape of its demand curve. This knowledge problem is multiplied dramatically under exclusive territories, where the manufacturer must know the demand for its product in *each separate geographical market* in order to efficiently design the territories themselves and set an appropriate wholesale price in each.

The knowledge problem is likely to be especially acute for the manufacturers of newly introduced products—precisely those products for which the information supplied by retailers is most critical. The assumption that a manufacturer of a new product never before marketed possesses sufficient knowledge of a *hypothetical* demand curve to make meaningful decisions about optimal wholesale and retail prices certainly strains the bounds of credibility.

Furthermore, for RPM to prevent sales from bleeding to lower priced outlets, the retail price floor set by the manufacturer must be uniform across the entire retail network. But a single retail price will be optimal only if all retailers incur identical costs, a popular assumption within the literature. However, the actual costs which affect retailer decision making are subjective opportunity costs,⁸ known only to each individual dealer. Even if the manufacturer were somehow able to magically learn of all these subjective retailer opportunity costs, it is exceedingly unlikely that they would all be exactly the same. In all actuality, no single optimal retail price exists for the manufacturer to set.

The Information Entrepreneur

The most often cited analyses of vertical restraints in fighting retail free riding consist of insulated manufacturers and retailers operating within a closed world. Solutions involving other parties are not considered as options. In an open universe of decision makers, however, the free riding problem for the manufacturer is, at the same time, an opportunity for an alert entrepreneur. Kirzner opens the entrepreneurial door when discussing the information content of advertising.

If producers did not offer “free” information jointly with the product, consumers would be forced to use other techniques of purchasing information. In fact, the provision of free information through advertising has, in this line of ideas, come more recently

⁸James M. Buchanan, “What Should Economists Do?,” *Southern Economic Journal* (1964): 213–223.

to be integrated into the broader theory of the economics of information. In this theory, the provision of information is treated as a service separated from the products to which market information is relevant. Moreover, it is a service whose usefulness is *valued* by the consumer *separately* from that of the relevant products.⁹ (emphasis in original)

Any reduction in information offered by full-service dealers as a response to free riding activity provides an opportunity for alert entrepreneurs to fill the information lacuna with their own information services. Since, as Kirzner pointed out above, product information is often valued by the consumer distinctly from the product itself, "information entrepreneurs" can bundle information packages and market them separately and directly to the consuming public. In fact, as argued below, the information supplied by third party information entrepreneurs is likely to be superior to that offered by retailers.

Consider, for example, the markets for bicycles and bicycle equipment. In the last decade or so, bicycles and bicycle equipment have become increasing complex, due in part to specialization and advances in technology. Today, sporting goods dealers and specialty bicycle shops sell a broad assortment of racing bikes, road bikes, mountain bikes, and so called "hybrid" bikes, which combine features of racing and mountain bikes. Each type of bicycle requires its own assortment of specialized parts, components, and accessories. To make an intelligent purchasing decision, a consumer requires information about the various products available, as well as assistance in arriving at an appropriate type and model of bike, given the manner in which he or she is apt to use it. Much of this information is provided by full-service retailers via bicycle displays and specially trained salespeople. However, discount outlets and mail-order marketers often distribute many of the same products, without offering a commensurate level of information services, at lower retail prices. Consequently, free riding activity in this market is distinctly possible. Indeed, many manufacturers appear to attempt to combat the problem by, for example, setting "manufacturers' suggested retail prices" to discourage price cutting, and imposing a degree of territorial exclusivity in retail networks. Nevertheless, some free riding certainly does occur, with the result that the information

⁹Israel M. Kirzner, *Competition and Entrepreneurship* (Chicago: University of Chicago Press, 1973), p. 152.

services offered by full-service dealers are, in all likelihood, insufficient from both the manufacturer's and the consumer's point of view.

In this setting, a variety of information entrepreneurs have developed products and services to help fill the information gap spawned by retail free riding. For example, magazines, books, and cable television programming all provide consumers with information about bicycles and bicycling. A host of magazines appear on the shelves of any newsstand covering bicycle racing and mountain biking. For more general information, a variety of books describe the different kinds of bicycles available in the market today, and offer advice to consumers regarding which type of bicycle might be most appropriate. Sports channels on cable television regularly televise both road and mountain bike races. All of these media are potentially important sources of information for anyone imperfectly informed about the products offered in today's bicycle market.

The number and variety of information entrepreneurs will vary with the product's value and complexity. Consumers of expensive, complicated, and highly technological products are apt to demand more information than the purchasers of less inexpensive, mundane products. Though product information is important for potential buyers of both computers and running shoes, for example, the demand for computer information is likely to exceed in depth and breadth the demand for information about running shoes. Thus, while one can obtain information about running shoes and computers from different magazine publications, information entrepreneurs have developed an assortment of additional information services—e.g., seminars and other classroom offerings—directed toward computer purchasers.

The ability of third-party entrepreneurs to offer successful information services depends critically on how quickly the information they provide depreciates. If the manufactured products in question are relatively stable—they do not change significantly over time—then consumers will quickly reach the point where the marginal cost of additional information acquisition exceeds the marginal benefit, and any market for information services will soon evaporate. However, if the product of concern is in a steady state of flux—that is, if the product is regularly altered, or if new and improved versions are constantly appearing on the market—then information entrepreneurs can provide a regularly updated stream of information services which the information-consuming public will readily demand. Indeed, if one subscribes

to the market process view of imperfect competition,¹⁰ most manufacturers, seeking to better satisfy evolving consumer wants and desires, will constantly update their products' qualities and characteristics. This view suggests that, at least in many contexts, markets will persist for the services provided by information entrepreneurs.

Market Process

The most oft-cited and influential analyses of vertical restraints as ammunition against retail free riding are neoclassical equilibrium models. In addition to overlooking the roles played by knowledge and entrepreneurship, these analyses ignore the competitive market process so essential to a thorough understanding of the free riding problem. In reality, a consumer neither enters the market as the *tabula rasa* many models initially assume, nor remains in the fully informed state of final equilibrium many of these very same models eventually reach. Instead, a consumer's knowledge base is in a constant state of flux, as he discovers new information, and forgets some as well. Neither is the relevant pool of information stable. New knowledge is constantly available, and other information becomes obsolete. To truly understand the retail free riding problem, one must at least acknowledge the dynamic process of knowledge acquisition.

Manufacturers themselves often respond to the evolving state of consumer information. Recognizing that many of their traditional customers have, over time, accumulated a body of knowledge about their products and services sufficient to make much of the information provided by traditional retailers unnecessary, Apple Computer, Inc. recently expanded their operations into the mail-order business, distributing a catalog offering for sale a wide variety of Apple hardware and software products. The company also seemed to address those consumers at the opposite end of the knowledge-base spectrum—people with little aversion to remaining relatively ignorant of personal computers and their workings. Apple's Performa™ line of machines, bundled with special software which make the computers easier, but less flexible, to use are distributed through discount outlets and department stores. Both of these distribution expansions reflect changes in the knowledge bases of consumers, and in the process by which

¹⁰Ibid., pp. 112–19.

they acquire information. Neither move enamored Apple with its traditional retailers, but market forces required the company to respond to the changing states of consumers' knowledge and preferences.

Information entrepreneurs must compete against one another, as well as with the information services provided by retailers and/or manufacturers. In the competitive market process, entrepreneurs offer a constantly changing information package, trying to better serve consumer demands and responding to evolving consumer knowledge bases. In many ways, the information provided by third party information entrepreneurs is likely to be superior to that offered by traditional retailers. While the information supplied by retailers is primarily ancillary to the actual product being distributed, the product being marketed by the information entrepreneur is the *information itself*. A retailer might consummate a transaction even if the information services offered there are quite poor. Information entrepreneurs are not so fortunate. Because the product *is* the information, inferior quality information translates directly into reduced sales. Furthermore, because the services offered by entrepreneurs often include information on the products of a number of manufacturers, the information is less likely to be biased than that offered by retailers, who many have an incentive to steer consumers towards those brands for which the dealer receives the largest retail margin.

Moreover, the competition between traditional retailers usually is constrained to some extent by transportation costs. Dealers generally only compete against other retailers within a relatively small geographic proximity. In the extreme case of exclusive territories, competition between dealers is virtually eliminated. Information entrepreneurs, on the other hand, are typically able to compete in a larger range of markets, since their products are often broadly available via bookstores, newsstands, mail services, electronic networks, or public broadcast spectrums. Because the competition between information entrepreneurs is more intense than the competition between retailers, the information products supplied by third-party entrepreneurs are likely to be of a higher quality.

This is not to say that all information is best provided by information entrepreneurs. Rather, the competitive market process will tend to impose efficiency in information distribution. At any point in time, the types of information most productively provided by retailers will tend to be supplied by them. Market forces

will discipline entrepreneurs to offer the information services that they can more efficiently supply. And the mix between all types of information providers will constantly sway, reflecting changes in consumer demands and the state of consumer knowledge. In short, the competitive market process will determine which information will be provided by whom.

The Welfare Debate

Even though both RPM and exclusive territories can at least partially solve the retail free riding problem, they are currently subject to different legal treatments. Vertical price restrictions, including RPM, are technically *per se* violations of the antitrust laws, although manufacturers may legally engage in activity which is nearly indistinguishable from RPM.¹¹ Vertical non-price restraints, including exclusive territories, are presently judged under the more lenient rule-of-reason standard.¹² Much of the public policy debate over the retail free riding problem has concentrated on this disparity in legal treatments, and, in particular, on the seemingly overly stringent *per se* standard applied to RPM.¹³

Central in this debate is the effect RPM has on retail prices and, therefore, social welfare. Opponents of RPM argue that the practice, by artificially precluding price reductions, raises retail prices to consumers and therefore reduces welfare. RPM proponents counter that the larger retail margin, necessary for retailers to pay for information services, comes from lower wholesale prices, not higher retail prices. Furthermore, because RPM increases the information available to consumers via retailers, welfare is enhanced.

Using prices as a barometer for welfare and efficiency, however, requires an interpersonal comparison between the benefits and costs to consumer and producer. Since these benefits and costs are subjective, such a comparison is meaningless. Buchanan provides a more sensible approach to analyzing the welfare properties of vertical restraints and other activities: any activity,

¹¹See note 3 above.

¹²The current legal standard to be applied to vertical non-price restraints is set forth in *Continental TV, Inc. v. GTE Sylvania, Inc.*, 433 U.S. 36 (1977).

¹³See the exchange between David W. Boyd, "The Resale Price Maintenance Struggle: A Comment," *American Journal of Economics and Sociology* (October 1993): 447–54 and Anthony J. Greco, "Response of Professor Anthony J. Greco," *American Journal of Economics and Sociology* (October 1993): 454–58.

institution, or legal rule which facilitates mutually advantageous, voluntary exchange is efficient, or welfare-enhancing.¹⁴

The information entrepreneur measures up particularly well using Buchanan's welfare yardstick. When the retail free riding problem is solved by vertical restraints, and information is only provided by dealers, the consumer is forced to pay for information services, via the elevated retail price, whether he or she desires them or not. By unbundling the information from the product, the information entrepreneur makes the information available to the consumer without forcing all consumers to pay for information dissemination. Those consumers who demand information services are free to purchase them. Those who prefer to remain rationally ignorant or who already possess sufficient knowledge are not forced to subsidize information collection and dissemination.

Furthermore, by marketing the information products directly to the consumer, the information entrepreneur is likely to reduce consumer search costs, and therefore the effective price paid by consumers. Information provided by retailers nearly always necessarily entails a trip to the dealer. The transportation costs and the opportunity costs of the time forgone to acquire this information can be substantial, especially when a number of dealers are visited. Information entrepreneurs, on the other hand, typically deliver the information services directly to the consumer. Although they entail their own prices, acquisition costs are apt to be minor.

The information entrepreneur, therefore, is clearly a welfare-enhancing actor. Yet his place in the welfare debate over the retail free riding problem is notoriously absent. The welfare discussion should be expanded to include the roles played by the information entrepreneur and the institutions that affect how well he can perform his tasks. For example, the establishment of property rights in information influences the types of products and services the information entrepreneur can provide in a competitive market. By more concretely defining such rights, the third-party information provider can develop his products in a less uncertain environment. In general, attention in the debate should be paid to institutions and legal rules which affect the ability of the information entrepreneur to engage in his welfare-enhancing activities.

¹⁴James M. Buchanan, "Introduction: L. S. E. Cost Theory in Retrospect," in *L. S. E. Essays on Cost*, Buchanan and G. F. Thirlby, eds. (New York: New York University Press, 1981).

Conclusion

Despite a revival of Austrian economics since the middle 1970s, the school has made insufficient progress in injecting its ideas into mainstream economic thought. In a recent paper expanding on his work on the competitive market process, Kirzner conveys the sentiments of many Austrians: "Although this fundamental difference (between the perfectly competitive model and the competitive market process) has been articulated by the Austrians now for several decades, there has been disappointingly little impact upon mainstream contemporary theory."¹⁵ This failure may be due in part to an overly zealous concentration on theory at the expense of application. Indeed, W. Duncan Reekie largely agrees with this lament in his commentary on Kirzner's article,

students want either to study industrial organization and normative implications thereof for public policy toward business, or they want to study managerial economics to obtain normative insights on how to maximize profits. . . . To a degree, this coupling of student demands into "relevancy" and "low cost" may be mutually inconsistent; but that is the nature of the market and if we fail to meet this demand we, of all people, should not be surprised if others step in to fill it. . . . I believe Austrians have been frightened that . . . they will fling the baby out with the bathwater, but, in fear of doing so, the bath has gone cold and the baby is freezing to death.¹⁶

In this paper, I have attempted to respond to this criticism by applying well established Austrian economic notions to retail free riding, a significant problem in industrial organization. Examining the problem from an Austrian perspective reveals that the traditional neoclassical analysis ignores many of the most salient characteristics of the issue, and that much of the public policy debate on retail free riding is substantially misguided. If Austrian economists continue to illustrate that their

¹⁵Israel M. Kirzner, "The Driving Force of the Market: The Idea of 'Competition' in Contemporary Economic Theory and in the Austrian Theory of Market Process," in *Austrian Economics: Perspectives on the Past and Prospects for the Future*, Richard M. Ebeling, ed. (Hillsdale, Mich.: Hillsdale College Press, 1991), p. 139.

¹⁶W. Duncan Reekie, "The Driving Force of the Market: The Idea of 'Competition' in Contemporary Economic Theory and in the Austrian Theory of Market Process: Commentary," in *Austrian Economics: Perspectives on the Past and Prospects for the Future*, Richard M. Ebeling, ed. (Hillsdale, Mich.: Hillsdale College Press, 1991), pp. 169–70.

principles provide insight into everyday economic applications beyond that generated by mainstream economic thinking, perhaps the Austrian school will eventually make much needed inroads into mainstream economic thought.

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Notes and Replies

Rejoinder: Salerno on Calculation, Knowledge, and Appraisalment

Leland B. Yeager

Contrary to Joseph Salerno's "Reply" (1994), my article (1994) did not try to specify what Professors Salerno, Rothbard, and Herbener mean by "calculation." I did not say that they "equate calculation and arithmetic" (Salerno 1994, p. 116). Instead, I implicitly raised the *question* of what they might mean. I did so by pursuing my avowed main purpose, namely, to challenge their attempted dichotomy between the "calculation" and "knowledge" problems of socialism. I further challenged their suggestion that Ludwig von Mises was concerned only with the non-knowledge aspects of the calculation problem.

Salerno now focuses attention on "appraisalment." In the capitalist market process but not under socialism, every scarce resource receives an appraisalment "reflecting its relative importance in serving (anticipated) consumer preferences" (p. 112). The market process "transforms the substantially qualitative knowledge about economic conditions acquired . . . by competing entrepreneurs," including their estimates of consumers' subjective valuations, into "an integrated system of objective exchange ratios for the myriads of original and intermediate factors of production" (ibid.). The process operates "in the face of ceaseless change of the economic data" (p. 113). "[D]ispersed knowledge is not a bane but a boon to the human race; without it, there would be no scope for the intellectual division of labor, and social cooperation under division of labor would, consequently, prove impossible" (pp. 114–15). In the capitalist process, as Rothbard says in a passage that Salerno quotes (p. 115), "the entrepreneur is able to appraise and estimate future costs and prices. In the

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market economy, *qualitative* knowledge can be transmuted, by the free price system, into rational economic calculation of *quantitative* prices and costs."

Correctly interpreting Mises, Salerno writes "that the market creates a social appraisalment process . . . which depends crucially on an intellectual division of labor featuring the qualitative *understanding* of competing entrepreneurs; and . . . that this process is indispensable for converting the multidimensional knowledge of the economic data, regardless of who possesses this knowledge or where it is located, into a unitary structure of meaningful resource and product prices" (p. 120). Salerno goes on to emphasize "entrepreneurial forecasting" and "dynamic appraisalment" (p. 122).

All this emphasis on knowledge—yes, knowledge—is amply warranted. A further point that Salerno makes at least implicitly is worth underlining: much relevant knowledge is of a kind that simply could not be quantified or articulated except through the market process. Often an entrepreneur makes business decisions partly on his intuition or feel for technology, the attitudes and tastes of consumers and workers, sources of financing, and conditions in markets for inputs and for consumer goods and services—all in the future as well as the present. The entrepreneur receives information for judgments about such matters by reading specialized and popular publications, watching television and movies, experiencing various services and products personally, chatting with innumerable people, and strolling through town or the shopping mall. Much of what he thereby observes—or senses—he could not express in explicit words or numbers. A socialist system would let much such entrepreneurial knowledge go to waste even if it somehow emerged in the first place. The market system of profit and loss tends, as Mises said, to expand or shrink the roles of particular entrepreneurs according as they are relatively good or relatively poor in acquiring and using even these subtle and conjectural kinds of knowledge.

I forgo correcting several of Salerno's conjectures about my own position, mind-set, and standards of scholarship because his conjectures are peripheral to the issue at hand. My central point is that Mises was indeed concerned with the capitalist market process of mobilizing, articulating, and quantifying knowledge that socialism simply could not duplicate or replace. On any reasonable interpretation of exactly what calculation means in debates over socialist calculation, it is closely bound up with the development and use of knowledge. One ill-serves

Mises's reputation and ill-serves wide understanding of momentous issues by insisting on some conception or other of calculation from which all knowledge aspects have been severed.

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A Final Word: Calculation, Knowledge, and Appraisalment

Joseph T. Salerno

Leland Yeager's rejoinder "Salerno on Calculation, Knowledge, and Appraisalment" (1996) merits a final word, because I believe it makes a subtle though very important concession to the argument made by Rothbard, Herbener, and myself regarding the function of the price system. Before addressing this issue, I will offer comments relating to two other points raised by Yeager in his rejoinder.

1. Yeager (p. 175) denies having said, in his original article (1994), that Salerno, Rothbard, and Herbener (SRH) "equate arithmetic and calculation." While strictly speaking he is correct, I believe it is a quite reasonable inference from the statements he does make when characterizing the problem confronting central planners who are endowed with perfect knowledge of the economic data. As I have discussed in my Reply (Salerno 1994, pp. 120–23), in SRH's interpretation of Mises's argument, granting the unrealistic assumption of complete and perfect information, about either present disequilibrium market conditions or the future final equilibrium state toward which the real market is tending at any moment, does not obviate the need for monetary calculation provided by the market's pricing process. Yeager (1994, p. 97) states, however, that given "the centralized availability of information," the argument against socialism "boil(s) down to a contention about arithmetic." Elsewhere, in questioning the "supposed distinction" that SRH observe in Mises's writings between calculation and knowledge, Yeager (1994, p. 94) remarks "I cannot believe Mises was merely saying that *if* the socialist planners possessed in some way all the information normally conveyed by the market prices, they still would be stymied

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by inability to perform *calculations* in the narrow arithmetic sense." What else could Yeager mean by these statements except that anyone who argues that Mises distinguished calculation from knowledge is indeed equating calculation with arithmetic?

2. In stating that "Salerno *now* focuses attention on 'appraisement' (the emphasis is mine)" Yeager is implying that this is a concept I originated in my Reply (Salerno 1994) and that I have, therefore, suddenly shifted the grounds of my initial argument. But in my Reply (*ibid.*, pp. 112–15) I quote at length several passages from my earlier work on this topic, as well as from Rothbard's, in which the concept of "social appraisalment" is elaborated. Far from an *ad hoc* fallback position, the notion of appraisalment was at the heart of the SRH interpretation of Mises from the very beginning.

3. Finally, and most importantly, in the two consecutive paragraphs ending with the penultimate paragraph of his rejoinder, Yeager now abandons his original Hayekian position that the price system, i.e., past prices, automatically conveys to all passive producers all the knowledge that is relevant to their business decisions in a near-equilibrium world. He now concedes that "knowledge" is a primary matter of individual entrepreneurial experience, hunches, reading and personal observation, and superior forecasting of the uncertain future and whose qualitative content is therefore *not* "normally conveyed by (past) market prices." Contrary to his claim in the final paragraph of his rejoinder, then, this means that Mises's concept of economic calculation refers exclusively to the function of the price system in permitting entrepreneurs to appraise the quantitative importance of productive resources in a world where incessant change renders the future very unlike the past and current prices not directly relevant to future-oriented production plans.

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Socialism: A Property or Knowledge Problem?

Hans-Hermann Hoppe

In a series of recent articles in *The Review of Austrian Economics*, Joseph Salerno began to de-homogenize the often conflated economic and social theories of Ludwig von Mises and Friedrich A. Hayek. In particular, he has shown that their views on socialism are distinctly different, and he has argued in effect that Mises's original argument in the so-called socialist calculation debate was correct all along and was also the final word, whereas Hayek's distinct contribution to the debate was fallacious from the outset, and merely added confusion. The following note will provide additional support to Salerno's thesis.

Mises's well-known calculation argument states this: If there is no private property in land and other production factors, then there can also be no market prices for them. Hence, economic calculation, i.e., the comparison, in light of current prices, of anticipated revenue, and expected cost expressed in terms of a common medium of exchange—money—(thus permitting *cardinal* accounting operations), is literally impossible. Therefore, socialism's fatal error is the absence of private property in land and production factors, and, by implication, the absence of economic calculation.

For Hayek, socialism's problem is not a lack of property but a lack of knowledge. His distinctly own thesis is altogether different from Mises's.¹ For Hayek, the ultimate flaw of socialism is the fact that knowledge, in particular "the knowledge of the

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¹See in particular the widely acclaimed 1945 article on "The Use of Knowledge in Society," reprinted in F. A. Hayek, *Individualism and Economic Order* (Chicago: University of Chicago Press, 1948).

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particular circumstances of time and place," exists only in a widely dispersed form as the personal possession of various individuals; hence, it is *practically* impossible to assemble and process all the actually existing knowledge within the mind of a single socialist central planner. Hayek's solution is not private property, but the decentralization of the use of knowledge.

Yet this is surely an absurd thesis. First, if the centralized use of knowledge is the problem, then it is difficult to explain why there are families, clubs, and firms, or why they do not face the very same problems as socialism. Families and firms also involve central planning. The family head and the owner of the firm also make plans which bind the use other people can make of their private knowledge, yet families and firms are not known to share the problems of socialism. For Mises, this observation poses no difficulty: under socialism private property is *absent*, whereas individual families and private firms are *based* on the very *institution* of private property. But for Hayek the smooth operation of families and firms is puzzling, because his idea of a fully decentralized society is one in which each person makes his own decisions based on his own unique knowledge of the circumstances, unconstrained by any central plan or supraindividual (social) norm (such as the institution of private property).

Second, if the *desideratum* is merely the decentralized use of knowledge in society, then it is difficult to explain why the problems of socialism are fundamentally different from those encountered by any other form of social organization. *Every* human organization, composed as it is of distinct individuals, constantly and unavoidably makes use of decentralized knowledge. In socialism, decentralized knowledge is utilized no less than in private firms or households. As in a firm, a central plan exists under socialism; and within the constraints of this plan, the socialist workers and the firm's employees utilize their own decentralized knowledge of circumstances of time and place to implement and execute the plan. For Mises, all of this is completely beside the point. But within Hayek's analytical framework, no difference between socialism and a private corporation exists. Hence, there can also be no more wrong with the former than with the latter.

Clearly, Hayek's thesis regarding the central problem of socialism is nonsensical. What categorically distinguishes socialism from firms and families is *not* the existence of centralized knowledge or the lack of the use of decentralized knowledge, but rather the absence of private property, and hence, of prices. In

fact, in occasional references to Mises and his original calculation argument, Hayek at times appears to realize this, too. But his attempt to integrate his very own thesis with Mises's and thereby provide a new and higher theoretical synthesis fails.

The Hayekian synthesis consists of the following propositional conjunction: "Fundamentally, in a system in which the knowledge of the relevant facts is dispersed among many people, prices can act to coordinate the separate actions of different people" and "the price system" can serve as "a mechanism for communicating information."² While the second part of this proposition strikes one as vaguely Misesian, it is anything but clear how it is logically related to the first, except through Hayek's elusive association of "prices" with "information" and "knowledge." However, this association is more of a semantic trick than rigorous argumentation. On the one hand, it is harmless to speak of prices as conveying information. They inform about past exchange ratios. But it is a non-sequitur to conclude that socialism's central problem is a lack of *knowledge*. This would only follow if prices actually *were* information. However, this is not the case. Prices convey knowledge, but they *are* the exchange ratios of various goods, which result from the voluntary interactions of distinct individuals *based on the institution of private property*. Without the institution of private property, the information conveyed by prices simply does not exist. Private property is the necessary condition—*die Bedingung der Möglichkeit*—of the knowledge communicated through prices. But then it is correct only to conclude, as Mises does, that it is the absence of the institution of private property which constitutes socialism's problem. To claim that the problem is a lack of knowledge, as Hayek does, is to confuse cause and effect, or premise and consequence.

On the other hand, Hayek's identification of "prices" and "knowledge" involves a deceptive equivocation. Not only does Hayek fail to distinguish between what one might call institutional knowledge—information that requires for its existence an institution (such as the knowledge of prices requires private property)—and *raw* or *extra-institutional knowledge*—like this is an oak tree, I like peanuts, or birds can fly. Moreover, Hayek also fails to notice that the knowledge of prices is not at all the same sort of knowledge whose existence he believes to be responsible for the "practical impossibility" of socialism and central

²Ibid., pp. 85–86.

planning. What makes central planning impossible, according to Hayek, is the fact that part of human knowledge exists only as essentially *private* information:

practically every individual has some advantage over all others because he possesses unique information of which beneficial use might be made, but of which use can be made only if the decisions depending on it are left to him or are made with his active cooperation.³

While it is certainly true that such knowledge exists, and while it is also true that uniquely private knowledge can of course never be centralized (without information losses), it is just as certainly *not* true that the knowledge of *prices* falls into this category of uniquely *private* information. To be sure, prices are “prices paid at specific times and places,” but this does not make them private information in the Hayekian sense. To the contrary, the information conveyed by *prices* is *public* information, because prices—*qua* objective exchange ratios—are *real* events. It may be *difficult* to know all of the prices paid at a specified date and location, just as it may be difficult to know every person’s physical location at any given time. Yet it is hardly *impossible* to know either one, and with current computer technology it is probably easy. In any case, while I may never know everything that you know, and *vice versa*, it is no more problematic to assume that both of us can simultaneously possess the same *price* information than that we can both simultaneously know the same baseball results. Hence, the knowledge conveyed by *prices* actually *can be centralized*. But if price information is public information and thus can be centralized, then, according to Hayek’s thesis that socialism’s problem stems from the inefficiency of trying to centralize genuinely uncentralizable private knowledge, it would follow that the absence of prices, and hence of private property, has *nothing to do* with the plight of socialism. Otherwise, if one insists with Mises that the absence of private property and prices *does* have something to do with the plight of socialism. Hayek’s contribution to the socialism debate must be thrown out as false, confusing, and irrelevant.

Hayek’s misconception of the nature of socialism is symptomatic of a fundamental flaw in his thinking, pervading not only

³Ibid., p. 80.

his economics but in particular also his political philosophy: his ultra-subjectivism. Hayek, as noted and quoted *ad nauseam* by his numerous followers, was convinced that “it is probably no exaggeration to say that every important advance in economic theory during the last hundred years was a further step in the consistent application of subjectivism.”⁴ While this may well be true, it does not logically follow that every further advance toward subjectivism must also lead to an advance in economic theory. However, Hayek seems to have drawn this conclusion and has thus become a prime example illustrating its falsehood.

Mises, and in his steps even more clearly Murray N. Rothbard, conceives of economics as the science of human *action*. Action has two inseparable aspects: a subjective aspect (action is rational, intelligible action) and an objective aspect (acting is always acting with real things and physical stuff). Accordingly, Mises’s and Rothbard’s economics and political philosophy is never anything but robust, and their categories and theories invariably possess real, operational meaning: private property, division of labor based on private property, production, direct and indirect exchange, and also compulsory interference with private property and production and exchange such as taxation, counterfeiting, legislation, and regulation.

In distinct contrast, Hayek—and misled by him to different degrees also Israel Kirzner and Ludwig Lachmann—views economics as some sort of science of human *knowledge*. Accordingly, Hayek’s categories and theories refer to purely subjective phenomena and are invariably elusive or even illusory. He is not concerned about acting with things, but about knowledge and ignorance, the division, dispersion, and diffusion of knowledge, alertness, discovery, learning, and the coordination and divergence of plans and expectations. The external—physical—world and real—material—events have almost completely disappeared from his view. Hayek’s categories refer to *mental* states of affairs and relationships, completely detached from and compatible with any real physical state of affairs and events.

Most notable and disturbing is the ultra-subjectivist turn in Hayek’s political philosophy. According to a long-standing tradition of political philosophy shared by Mises and Rothbard, freedom is defined as the freedom to privately own—and control—real property, and coercion is the initiation of physical

⁴*The Counterrevolution of Science* (New York: Free Press, 1955), p. 31.

damage—harm—upon the private property of others. In distinct contrast, Hayek defines freedom as “a state in which each can use his own *knowledge* and for his own *purposes*,”⁵ and coercion means “such control of the environment or circumstances of a person by another that, in order to avoid greater evil, he is forced to act not according to a coherent *plan* of his own but to serve the *ends* of another,”⁶ or alternatively, “coercion occurs when one man’s actions are made to serve another man’s will, not for his own but for the other’s *purpose*”⁷ (all emphases are mine). Clearly, Hayek’s definition contains nothing regarding scarce goods and real tangible property, and he provides no *physical* criterion or indicator whatsoever for the existence or non-existence of either state of affairs. Rather, coercion and freedom refer to specific configurations of subjective wills, plans, thoughts, or expectations. As *mental* predicates, Hayek’s definitions of freedom and coercion are compatible with every *real*, physical state of affairs. They possess no power to make any real distinctions.⁸

It is beyond the scope of this note to offer a detailed critique and refutation of Hayek’s ultra-subjectivism. However, beside the fundamental question whether a science of knowledge as envisioned by Hayek is even possible, i.e., whether there can be any other science of knowledge apart from logic and epistemology on the one hand and the history of ideas on the other,⁹ two conclusions are painfully clear. Even if Hayek’s science of knowledge is possible, it appears at best irrelevant because it is praxeologically—operationally—meaningless. At worst it is intellectually pernicious in promoting relativism.

As for the real world of acting with physical property, of production and exchange, of money and markets, profits and losses, capital accumulation and bankruptcies, there can be no lasting doubt about the existence of *laws* and the ceaseless operation of a *tendency* toward general equilibrium—action-coordination. Likewise, there can be no doubt about the existence of laws and the constant operation of dis-equilibrating tendencies within

⁵*Law, Legislation, and Liberty*, Vol. 1 (Chicago: University of Chicago Press, 1973), pp. 55–56.

⁶*Constitution of Liberty* (Chicago: University of Chicago Press, 1960), pp. 20–21.

⁷*Ibid.*, p. 133.

⁸See also Hans-Hermann Hoppe, “Hayek on Government and Social Evolution,” *Review of Austrian Economics* 7, no. 1 (1994): esp. 70f.

⁹For some serious doubts on this see Hans-Hermann Hoppe, *Kritik der kausalwissenschaftlichen Sozialforschung* (Opladen: Westdeutscher Verlag, 1983).

the world of actual taxation, counterfeiting, legislation, and regulation. Indeed, it would be extremely costly—prohibitive—to not recognize such laws and tendencies and to adopt relativistic views. In contrast, in surreptitiously shifting attention from the tangible world of action and property to the ethereal world of knowledge, ideas, plans and expectations, relativistic views become attractive (and cheap). There are no apparent regularities and tendencies in Hayek's knowledge world. In fact, it is difficult to even imagine what "law" and "equilibrium" could possibly mean in the context of purely subjective phenomena. Instead there exists seemingly nothing but constant kaleidoscopic change.

It is hardly surprising, then, that Hayek and his followers could proclaim such relativistic slogans as that we cannot do anything to improve our condition except rely on spontaneous evolution, that our future is completely unknowable, or that we cannot but participate in an endless and open-ended stream of conversation. As far as the realm of purely subjective phenomena is concerned, and as addressed to a purely spiritual—disembodied—being, this may well be good advice. Actually possessing physical—bodily—existence, however, why would anyone even care to know it? As applied to the world of bodily action and property, such advice is self-destructive nonsense.

Calculation and the Question of Arithmetic

Jeffrey M. Herbener

The view that Ludwig von Mises had more in mind in his calculation critique of socialism than the Hayekian knowledge problem has recently been attacked by Leland Yeager.¹ This article addresses Yeager's central claim that,

I cannot believe Mises was merely saying that *if* the socialist planners possessed in some remarkable way all the information normally conveyed by genuine market prices, they still would be stymied by inability to perform *calculations* in the narrow arithmetical sense, an inability that advances in supercomputers might conceivably overcome.²

Yeager then asserts that Joseph Salerno, Murray Rothbard, and I (SRH) claim that this is what Mises meant. If Yeager means by this assertion that we believe that this is Mises's entire calculation argument, then Salerno is correct in responding that,

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¹Leland Yeager, "Mises and Hayek on Calculation and Knowledge," *Review of Austrian Economics* 7, no. 2 (1994): 93–109. Also, Israel Kirzner asserts that the Mises and Hayek contributions to the calculation debate, "are simply ways of expounding the same basic, Austrian insight, viz., that only market processes are able to harness the *discovery* potential of entrepreneurial competition." Italics in the original, see Israel Kirzner, "Book Review of *Hayek, Coordination and Evolution*," *Southern Economic Journal* 61, no. 4 (April 1995): 1244. If Kirzner is correct, it would seem that Mises and Hayek were both Kirznerians and the entire calculation debate was a debate about Kirzner's concept of entrepreneurship. On his concept of entrepreneurial discovery, see Israel Kirzner, *Competition and Entrepreneurship* (Chicago: University of Chicago Press, 1973) and *Discovery and the Capitalist Process* (Chicago: University of Chicago Press, 1985).

²Yeager, "Mises and Hayek," p. 94. Italics in the original.

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"it is wholly beside the point, because it rests on a gross misinterpretation of the meaning explicitly attached to the term 'calculation problem' by SRH."³ In response to Yeager, Salerno says,

it does not follow that, for SRH, *the* calculation problem as Mises conceived it refers narrowly to the mathematical techniques employed for manipulating the given quantitative data; it refers, instead, to the origination and meaningfulness of the data themselves. It is, in short, a problem of "appraisal" and not of "arithmetic."⁴

From this beginning point, he proceeds to cogently rebut Yeager's claim by demonstrating that entrepreneurial appraisal is not subsumed under market information.

Yet Yeager seems to imply something else in his claim that by its nature goes untouched by Salerno's rebuttal. Yeager seems to imply that the arithmetic facet of Mises's calculation argument is trivial. This claim is not only false but is odd coming from a student of Mises's work; for Mises made several true and non-trivial arguments based solely on arithmetic or mathematics and statistics, more generally: the impossibility of interpersonal utility comparisons (lack of a unit of subjective value), the impossibility of economic calculation (inability of comparing heterogeneous units of factors of production), the impossibility of mathematical equations in economic theorizing (lack of constants in human action), and the impossibility of statistical analysis in economic theory (lack of a probability density function for the data of human action).⁵ Acceptance of these *merely* arithmetic, mathematic, and statistical points destroys several major branches of orthodox economic theory: utility and welfare, socialist, mathematical, macroeconomics, and econometrics. Together these constitute a significant portion of what passes for economic thought today.

While it is true that Mises's calculation argument is not *merely* arithmetic; it is also true that it is not *merely* appraisal. Mises argued that economic calculation is a problem of both

³Joseph Salerno, "Reply to Leland B. Yeager on 'Mises and Hayek on Calculation and Knowledge,'" *Review of Austrian Economics* 7, no. 2 (1994): 112.

⁴Ibid. Italics in the original.

⁵Mises discusses each of these points in *Human Action: A Treatise on Economics* (Chicago: Henry Regnery, [1949] 1966).

arithmetic and appraisement.⁶ More precisely, Mises's calculation argument has two dimensions: the impossibility of central planners performing the arithmetic of profit and loss computation in pure socialism which, in turn, makes it impossible for them to engage in entrepreneurial appraisals necessary to give meaning to profit and loss, and, thus, rationally allocate factors of production.⁷ Although information enters into the latter, it cannot enter into the former.⁸

The arithmetic facet of Mises's argument deals with the existence, or lack thereof, of a format in which information can be put and appraisals can be made. A format is necessary because the "raw data" required to answer relevant economic questions posed by the operation of a social process of exchange and division of labor are denominated in incommensurate units. Unless these units can be converted into a common standard, they cannot be compared; unless they can be compared the economic questions cannot be answered. As Mises said of one socialist scheme of economic calculation, "Calculation in kind is to be substituted for calculation in terms of money. This method is worthless. One cannot add or subtract numbers of different kinds (heterogeneous quantities)."⁹ The impossibility of comparing the number of apples to the number of oranges is an arithmetic problem; and a

⁶I am not asserting that Salerno fails to understand or appreciate the arithmetic facet of Mises's concept of calculation. He mentions it twice in his "Reply to Yeager," (pp. 112 and 120) and it is this point that Yeager himself notices in Salerno's work. My contention is only that proper recognition of this facet of Mises's argument also defeats the Yeager position.

⁷By the phrase, "impossibility of performing the arithmetic of profit and loss computation," we do not have in mind what Yeager seems to accuse us of meaning. As Salerno says, "the Misesian demonstration of the logical impossibility of socialism is not predicated on the central planners' incapacity to perform tasks that can conceivably be carried out by individual human minds," including adding and subtracting. See Salerno, "Reply to Yeager," p. 112. The arithmetic problem of calculation is not the inability to add common units together, it is the absence of such units. No "advances in supercomputers" can overcome the impossibility of adding together apples and oranges.

⁸These two steps correspond to the two conditions Mises claimed were necessary for calculation to take place: voluntary exchange of all goods including factors of higher order and the use in these exchanges of money. The first is necessary to bring higher-order capital goods under the orbit of the entrepreneurial "intellectual division of labor"; the second is necessary because without it, "It would not be possible to reduce all exchange-relationships to a common denominator." See Ludwig von Mises, *Economic Calculation in the Socialist Commonwealth* (Auburn, Ala.: Ludwig von Mises Institute, [1920] 1990), pp. 17–18.

⁹Ludwig von Mises, *Human Action*, p. 703.

fundamental, not trivial, problem of arithmetic. Without its solution, no arithmetic operations can be conducted at all.

The profit and loss calculation solves the arithmetic problem inherent in answering both economic questions posed by the operation of a social process of exchange and division of labor: what consumer goods should be produced and which combination of factors of production should be used to produce each consumer good. The arithmetic problem of the first question is the incommensurability of the subjective values of different individuals who participate in the social process of exchange and division of labor. There are two dimensions to the impossibility of making interpersonal comparisons of utility: no unit can be defined for preferences since they are subjective and even if units of subjective value existed for each person, they would not be comparable from one person to another.¹⁰

The solution to the problem of the incommensurability of the subjective values of individuals and the answer to the question of what consumer goods should be produced to satisfy them lies in the possibility of market prices denominated in money. Consumers demonstrate their preferences for some goods relative to others by purchasing and refusing to purchase. Since all preferences are demonstrated using the same standard, viz. money, the effects of action based on these preferences, viz. money prices, are commensurate, and, therefore, formatted for meaningful economic calculation.

Entrepreneurs then impute market value to each factor of production according to its marginal value product via their demand for the factors. Factors prices are then determined by the intensity of entrepreneurial demand relative to the opportunity cost placed on them by their owners. These prices make the different units of the factors commensurate and therefore, permit entrepreneurs to efficiently allocate factors across the production of consumer goods.¹¹

As a student of Mises's work, Yeager is surely familiar with his account of the relationship between the subjective values of

¹⁰As Mises said, "In an exchange economy the objective exchange value of commodities enters as the unit of economic calculation. This . . . renders it possible to base the calculation upon the valuations of all participants in trade. The subjective use value of each is not immediately comparable as a purely subjective phenomenon with the subjective use value of other men. It only becomes so in exchange value, which arises out of the interplay of the subjective valuations of all who take part in exchange." Mises, *Economic Calculation*, p. 12.

¹¹*Ibid.*, p. 23.

consumers and market prices as well as the impossibility of interpersonal utility comparisons. Even for those economists, few in number and among whom one should not expect to find Yeager, who disagree with the latter claim, it would seem strange for them to characterize the problem of interpersonal utility comparisons as anything but an arithmetic problem. You can only add or subtract items of like units. This fact is both arithmetic and non-trivial. An entire branch of economics (welfare economics) crashed to the ground on this point and another branch (utility economics) was completely revamped because of it.¹² The arithmetic dimension of Mises's calculation argument is based on the same arithmetic truth that makes interpersonal utility comparisons impossible; and recognition of this fact helps clarify and strengthen instead of, "caricature and trivialize," Mises's argument as Yeager claims.¹³

Mises understood that the question of what consumer goods should be produced can be answered by the central planners and therefore, is not a barrier to the establishment of a centrally-planned economy.¹⁴ The planners can do this by simply substituting their preferences for the unknowable and incomparable preferences of consumers. They produce, or attempt to produce, the goods they themselves value. This solution, however, is arbitrary with reference to the preferences of consumers. These, the central planners cannot know and even if they did they could not make the relevant comparisons to determine what subset of valuable goods should be produced to the exclusion of other goods consumers find valuable. Central planners with perfect information of consumer preferences still could not calculate what to produce to satisfy such preferences because they are ordinal rankings and therefore, cannot be compared. Even if central planners had perfect information of the subjective values of each individual denominated in units, they could not perform economic calculation because it is impossible to compare any items that are denominated in dissimilar units. Only if the central planners knew how to

¹²The old welfare economics and utility economics were based on the concept of cardinal utility which embodied two arithmetic mistakes: units of subjective value are possible and such units are interpersonally comparable. See Murray N. Rothbard, "Toward a Reconstruction of Utility and Welfare Economics," in *On Freedom and Free Enterprise*, Mary Sennholz, ed. (Princeton: Van Nostrand, 1956), pp. 224–62.

¹³Yeager, "Mises and Hayek," p. 94.

¹⁴Mises, *Human Action*, pp. 695–98.

convert the subjective units of each individual into a common standard would they be able to perform this part of economic calculation.

The central arithmetic facet of Mises's calculation critique is the incommensurability of the different factors of production that could be combined in different ways to produce each consumer good. Hours of labor cannot be compared to acres of land nor can these units be compared to units of each capital good. As Mises, discussing his example of central planners contemplating building a railroad, wrote in 1920, "Where one cannot express hours of labor, iron, coal, all kinds of building material, machines and other things necessary for the construction and upkeep of the railroad in a common unit it is not possible to make calculations at all. The drawing up of bills on an economic basis is only possible where all the goods concerned can be referred back to money."¹⁵ Nearly thirty years later, he wrote,

The director wants to build a house. Now, there are many methods that can be resorted to. . . . Which method should the director choose? He cannot reduce to a common denominator the items of various materials and various kinds of labor to be expended. Therefore he cannot compare them. . . . In short, he cannot, in comparing costs to be expended and gains to be earned, resort to any arithmetical operation.¹⁶

Concerning the pricing process of the market by which economic calculation solves the problem of incommensurability, Mises concluded that socialism cannot reduce the value of the means of production to "the uniform expression of a money price." In a market economy, "all prices can be referred back to a common expression in terms of money."¹⁷

If there were no arithmetic facet of this "common expression in terms of money," (contrary to Mises's explicit statement that there is) then the problem of economic calculation would not exist since the planners could discover the value of each factor in each use by withdrawing it.

Mises summed up the problem of calculation in socialism by saying, "In the main, socialist production might only appear

¹⁵Mises, *Economic Calculation*, p. 25.

¹⁶Mises, *Human Action*, p. 698.

¹⁷Mises, *Economic Calculation*, pp. 23-24.

rationaly realizable, if it provided an objectively recognizable unit of value, which would permit of economic calculation in an economy where neither money nor exchange were present.”¹⁸ If this problem has no *merely* arithmetic facet, then why did socialists struggle to employ the labor theory of value to solve it? Mises finished the quote above by saying, “And only labor can conceivably be considered as such.” But, why not perform economic calculation in all factors of production at once claiming each of them to have intrinsic value and thereby dispense with the search for a “socially necessary” amount of labor, i.e., a common unit of labor in which all factors can be rendered? The existence of cardinal units is not sufficient for economic calculation to be performed. One cannot add together factors denominated in incomparable cardinal units, nor compare the efficiencies stated in cardinal numbers, e.g., the average product of labor with the average product of capital, of different factors of production. The task of economic calculation requires, in addition to cardinal units, a method by which the different units can be transformed into a common cardinal unit.¹⁹ If it is not necessary to have a common objective unit in which all factors can be meaningfully compared, then a large part of the debate about the labor theory of value was so much spilled ink.

Yeager’s contention about the arithmetic facet of Mises’s argument makes it neither erroneous nor trivial. To the contrary, it is both correct and devastating to naive socialists who believe that the economic problem of factor usage can be solved by central planners in the absence of profit and loss calculation based on monetary prices, i.e., in pure socialism, including those who think the problem could be solved by “advances in super-computers.”

It is only to defeat those socialists who wish to enter the debate on economic theory that Mises moves to more complex dimensions of his calculation argument.²⁰ To the assertion that socialism can overcome the incommensurability of different factors by having central planners set monetary prices for all goods and factors, Mises responds that the problem is calculation of objective value,

¹⁸Ibid., p. 33.

¹⁹These two issues, the existence of cardinal units and the existence of a common denominator into which the various cardinal units can be put, are analogous to the two dimensions of the impossibility of making interpersonal comparisons of utility discussed above.

²⁰Mises moves to some of these steps, in a different order than that presented here, when addressing a list of suggestions for socialist economic calculation in *Human Action*, pp. 703ff.

not objective units *per se*. Such a procedure would not solve the allocation problem since it leads to a "solution" that is arbitrary even from the viewpoint of the central planners, let alone that of consumers. The problem of factor usage cannot be solved by having the central planners assign a monetary wage to be multiplied by labor hours, and so on for each factor, so that the monetary costs of different combinations of factors capable of producing a given consumer good can be compared and the least cost method selected. Such cost calculations have no relationship to the preferences placed on the consumer goods and therefore, are useless for economic calculation. Only the market process can connect the value of factors to the value of consumer goods in a meaningful way.

Mises demonstrates this point by allowing that a socialist state could have a medium of exchange, limited in its scope to trading in some consumer goods. But, as he said,

where the means of production are state controlled . . . because no production good will ever become the object of exchange, it will be impossible to determine its money value. Money could never fill in a socialist state the role it fills in a competitive society in determining the value of production goods. Calculation in terms of money will here be impossible.²¹

To the assertion that the central planners can overcome the arbitrary nature of prices set by their own decree by having the managers of state-operated production facilities act as if they were entrepreneurs engaged in trade, Mises argues that one cannot "play" market.²² For entrepreneurial competition to perform the function of factor evaluation, the possibility of bearing the opportunity costs of different factor allocations must be real. Only with private property can entrepreneurs and capitalists risk their own wealth in the process of social production and therefore be in a position to make accurate appraisals of factor values.^{23, 24} To argue that play acting could mimic the results of

²¹Mises, *Economic Calculation*, p. 6.

²²Mises, *Human Action*, pp. 707–9.

²³Mises, *Economic Calculation*, p. 28.

²⁴One particular target Mises aimed at was the "market socialism" of Oskar Lange in his, "On the Economic Theory of Socialism," reprinted in *On the Economic Theory of Socialism*, vol. 2, Benjamin Lippincott, ed. (Minneapolis: University of Minnesota Press, 1938), pp. 57–129. Yeager, in using the debate between Mises and Lange as the text for criticizing the SRH view, reveals the source of his lack of appreciation for the arithmetic facet of Mises's calculation argument. See Yeager, "Mises and Hayek," pp. 103ff. Mises had no need to mention the arithmetic

the market was to confuse the functions of management with those of entrepreneurship.

One cannot *play* speculation and investment. The speculators and investors expose their own wealth, their own destiny. This fact makes them responsible to the consumers. . . . If one relieves them of this responsibility one deprives them of their very character. They are no longer businessmen, but just the group of men to whom the director has handed over his main task, the supreme direction of the conduct of affairs. Then they—and not the nominal director—become the true directors and have to face the same problem the nominal director could not solve: the problem of economic calculation.²⁵

To the assertion that the central planners can overcome the “game-playing” nature of market socialism by using the pre-existing market set of prices, i.e., those prices existing in the capitalist system just prior to socialization, Mises argues that the transition from capitalism to socialism is too fundamental for the old prices to bridge the gap and that pricing must be “dynamic” since underlying economic phenomena are constantly changing. By destroying the differences in wealth in the existing market economy when expropriating private property, socialism disconnects the prices that correspond to those inequalities with the different conditions now prevailing for which calculations must be made. Moreover, any changes in conditions that underlie the economic allocation of factors makes the existing set of prices obsolete, and all the more so the greater the extent of such changes.²⁶

problem in response to Lange; market socialism overcomes that problem by employing money—the common denominator necessarily absent in a pure socialist system—and money prices. Mises was, thus, required to move to more complex dimensions of his calculation argument and criticize market socialism for its inability to perform entrepreneurial appraisals based on money prices which are not established in market exchanges of private property.

Because Rothbard fails to mention the arithmetic facet of calculation but does mention information in discussing the debate between Mises and Lange, Yeager attempts to construe Rothbard as once holding the Yeager position and then shifting to the SRH view. See Yeager, “Mises and Hayek,” p. 106. But Rothbard had no more reason to mention the arithmetic facet of calculation in this context than did Mises. Moreover, neither Mises, nor Salerno, nor Rothbard, nor I claim that the central planners do not face an information problem. The SRH claim is that Mises’s calculation argument has more to it than the information problem. Yeager’s claim that it does not is not proven by noting that Mises and SRH recognize information as a problem.

²⁵*Ibid.*, p. 709. Italics in the original.

²⁶Mises, *Economic Calculation*, pp. 25–26.

Furthermore, as Salerno pointed out, Mises understood that answering the economic questions of what and how to produce requires entrepreneurs to correctly project appraisals of goods and factors into the future.²⁷ Since the data are continually changing, static modeling cannot be substituted for entrepreneurs to perform economic calculation. Comparative statics serves no better since it cannot determine how human action moves the solution from one point to another.²⁸

Moreover, general equilibrium is irrelevant to the actual problem that economic calculation must solve and that can be done so only by entrepreneurial activity. Neither the actual prices, both present and future, nor the preferences necessary for factor allocations to be made have any relationship to those of equilibrium. As Mises said, "what impels a man toward change and innovation is not the vision of equilibrium prices, but the anticipation of the height of the prices of a limited number of articles as they will prevail on the market on the date at which he plans to sell."²⁹

General equilibrium equations are formed by knowing the constants of those equations, under the assumption that no further change in the data is permissible. Without the assumption of no further changes, no constants exist and no equations can be formed. Yet, the economic system cannot achieve, or move toward, the equilibrium without changes from the existing set of data. The equations are, thus, useless for the task of allocating factors of production toward their general equilibrium uses. As Mises said, "What acting man needs to know is not the state of affairs under equilibrium, but information about the most appropriate method of transforming, by successive steps, [the total supply of produced factors allocated as they are today] into [the total supply of produced factors allocated as they need to be in equilibrium]. With regard to this task the equations are useless."³⁰

Even if the central planners had full knowledge of the state of general equilibrium and could see how to move production from original factors to the final equilibrium state, this would not suffice to circumvent the problem that only economic calculation can solve. The existing state of production does not correspond to any state of this perfect-knowledge production process. Existing

²⁷Salerno, "Reply to Yeager," pp. 120–23.

²⁸Mises, *Human Action*, pp. 710–11.

²⁹*Ibid.*, p. 711.

³⁰*Ibid.*, pp. 712–13.

capital goods embody past allocation errors relative to their perfect knowledge uses. Since these capital goods can neither be freely transferred into other uses nor transferred efficiently without taking account of their existing characteristics, central planners with perfect knowledge would still need to resort to economic calculation to properly allocate them. Mises concludes his discussion of economic calculation at this step where no recourse is made to the arithmetic facet of the argument when viewed in its entirety.³¹

Instead of realizing the logical construction of Mises's argument—beginning with its arithmetic facet and then in turn allowing, for the sake of argument, that the central planners can overcome progressively more difficult aspects of the calculation problem—Yeager implies that SRH assume that Mises was conceding that the central planners could solve these problems. Yeager says,

The necessary preparations for the vast central calculation, let alone the calculation itself, could *not* be accomplished; they are, to use Mises's word, "impossible." It seems perverse, then, to interpret Mises as nevertheless conceding the possibility of all those preparations and of balking only at the possibility of the calculation itself.³²

But Mises did not concede that a "preparation" or "information" problem could be solved by the central planners in the actual operation of socialism. He conceded the solution to these problems, *for the sake of argument*, for the very purpose of demonstrating that his calculation argument proved the impossibility of economic calculation, *even if these problems were solved*. The fact that he chose this method of argumentation is proof that his calculation argument has more to it than just the lack of information available to central planners.

In fact, Mises "concedes" much more than the solution to the "information" problem, in the final step of his argument. If Yeager has this perfect-information scenario in mind in his quote at the beginning of this article, then he misstates Mises's hypothetical conditions (under which there is no arithmetic facet of the argument). Mises is not, here, assuming that the central planner has

³¹Ibid., pp. 713–14.

³²Yeager, "Mises and Hayek," p. 101. Italics in the original. Also, see his other statements on Mises's concessions, pp. 97–98.

perfect information and *therefore*, can perform economic calculation, as Yeager implies in his quote. Mises is assuming that the central planner has “miraculously” solved the problems of economic calculation—not just information but calculation itself—and could therefore construct a perfect production structure over time, starting without any capital goods, to achieve some final equilibrium state. Even if the central planners had perfect information and the ability to calculate with that information, however, they still could not calculate how to effectively operate any actual existing economy they are attempting to control.

If Yeager means what he seems to say—that Mises could not have meant that a central planner with perfect information about preferences and factor conditions could not perform the arithmetic operations necessary to calculate—then he is wrong; for this is precisely the first step of Mises’s argument demonstrating the impossibility of economic calculation in the socialist commonwealth.³³

On the importance of the arithmetic aspect of the economic calculation, Mises said,

every action can make use of ordinal numbers. For the application of cardinal numbers and for the arithmetical computation based on them special conditions are required. These conditions emerged in the historical evolution of the contractual society. Thus the way was opened for computation and calculation in the planning of future action and in establishing the effects achieved by past action. Cardinal numbers and their use in arithmetical operations are also eternal and immutable categories of the human mind. But their applicability to premeditation and the recording of action depends on certain conditions which were not given in the early state of human affairs, which appeared only later, and which could possibly disappear again . . .

Modern civilization is above all characterized by the fact that it has elaborated a method which makes the use of arithmetic possible in a broad field of activities. This is what people have in mind when attributing to it the—not very expedient and often misleading—epithet of rationality.³⁴

³³Mises explicitly made these assumptions in the development of his calculation argument. In addition to the statements already quoted, see Mises, *Human Action*, p. 696.

³⁴*Ibid.*, p. 199.

Review Essays

Keynes Was a Keynesian

Roger W. Garrison

The State of Interpretation of Keynes

Edited by John B. Davis

Boston: Kluwer Academic Publishers, 1994

A half dozen papers together with formal comments and an introduction have been assembled to help establish the state of interpretation of Keynes. The contributors to this volume are ideologically like-minded but geographically diverse (Australia, Brazil, Canada, Great Britain, Italy, and the United States are represented). Their book, whose title belies a certain narrowness of focus, is not for everyone; it reflects the concerns of one particular Keynesian school, best described, in my judgment, as Post Keynesian fundamentalism.

Academics who continue to be amused and intrigued with the still-growing literature on the economics of John Maynard Keynes have had to learn to distinguish among the several different schools that draw inspiration from the master. Hyphenated or adjectival Keynesianism includes, for instance, both Neo-Keynesianism, which is based on an assumed wage and price stickiness, and New Keynesianism which attempts to explain the stickiness. Neo- and New Keynesianism share certain methodological presuppositions with Neo- and New Classicism but do not share in the judgment that markets are generally self-equilibrating. Interpreters who prefer to blend Keynes's ideas with those of the old classical school, which featured a cost-based production theory, have adopted "post" as their adjective of choice. Readers of this literature have been asked to maintain a distinction between Post Keynesianism and Post-Keynesianism—a distinction as subtle as

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the difference in labeling.¹ But whatever the particular labeling, most interpreters have come to see as virtual opposites *Keynesian Economics* and *the Economics of Keynes*, as contrasted in the title of Axel Leijonhufvud's 1968 book.

Murray Rothbard used to proclaim gleefully that "Keynes was a Keynesian."² He took great pleasure in the irony that by so proclaiming he set himself apart from most all modern interpreters. Keynes favored monetary manipulation and fiscal activism, deficit finance and income redistribution, all for the purpose of spending our way out of depression. When his attention turned from short-run policy to long-run reform, his enthusiasm for these stop-gap measures gave way to his anticipations of a future utopia—and to schemes for ensuring and hastening its arrival. The inherent uncertainty of the future, in his view, gave centralized decision making a clear advantage over the decentralization that characterizes market economies. Keynes advocated the "socialization of investment" and the "euthanasia of the rentier." The rate of interest, which "rewards no genuine sacrifice," could and should be driven to zero, at which point capital would cease to be scarce and the distribution of income would be more equitable. In a matter of two generations, the economic problem of scarcity can be solved, such that our grandchildren can occupy themselves with questions of aesthetics rather than questions of economics.³ This is the uninterpreted Keynes.

Post Keynesians emphasize Keynes's vision of utopia and the associated reform proposals almost to the exclusion of his diagnosis of depression and prescription of short-run demand-management

¹Paul Davidson defines the unhyphenated Post Keynesians very broadly and then identifies a classically oriented subset, to which he awards the hyphen. Further, he prefers to call Post-Keynesians Neo-Keynesians, a label I have used for the Keynesian component of the Keynesian-Neoclassical Synthesis found in modern textbooks. See Davidson, "Post Keynesian Economics: Solving the Crisis in Economic Theory" in Daniel Bell and Irving Kristol, eds., *The Crisis in Economic Theory* (New York: Basic Books, 1981), pp. 151–73.

²"That Keynes was a Keynesian—of the much derided Keynesian system provided by Hicks, Hansen, Samuelson, and Modigliani—is the only explanation that makes any sense of Keynesian economics." Murray N. Rothbard, "Keynes, the Man" in Mark Skousen, ed., *Dissent on Keynes: A Critical Appraisal of Keynesian Economics* (New York: Praeger Publishers, 1992), p. 196.

³Quoted phrases are from John Maynard Keynes, *The General Theory of Employment, Interest, and Money* (London: Macmillan, 1936), p. 376–78. For assessments of the utopian Keynes, see Joseph T. Salerno, "The Development of Keynes's Economics: From Marshall to Millennialism," *Review of Austrian Economics* 6, no. 1, (1992): 3–64, and Roger W. Garrison, "Keynesian Splenetics: From Social Philosophy to Macroeconomics," *Critical Review* 6, no. 4 (1993): 471–92.

policies. In fact, standard textbook Keynesianism, whose graphics and equations make the case for monetary and fiscal activism, are repeatedly described in the Davis volume as “bastardized Keynesianism” (Joan Robinson’s term) so as to provide an appropriate contrast with the more radical Keynesianism adopted by the volume’s contributors. If Post Keynesians did nothing but embrace these utopian aspects of Keynes, they would more accurately be described as Keynesian fundamentalists. But they do more. They add to the chronic demand deficiencies featured in Keynes’s *General Theory* the ideas about supply first articulated by the classical economists and subsequently exhumed by Piero Sraffa just before the Keynesian Revolution. Sraffa’s *Production of Commodities by Means of Commodities*, written during the 1930s though not published until 1960, is offered as the supply-side counterpart to Keynes’s demand-side theorizing. Michael Lawlor’s contribution, “The Own-Rates Framework as an Interpretation of the *General Theory*: A Suggestion for Complicating the Keynesian Theory of Money,” identifies Sraffa’s (ill-tempered) review of Hayek’s *Prices and Production* as the foundation underlying this new approach to monetary theory adopted by Keynes. As a duo, however, Sraffa and Keynes give us an unlikely and ill-fitting rendition of supply and demand.

Post Keynesians typically—but not in the volume under review—suggest still more complications: a dual market structure consisting of both competitive and oligopolistic firms, mark-up pricing (practiced by the oligopolists) to finance new investment, and Marxian class conflict. The Davis volume avoids what would otherwise appear to be a hopeless grab bag of ideas by focusing on Keynes—his vision, philosophy, methods, analyses, and tactics. One of the formal comments (Allin Cottrell’s) even includes a warning against perceiving Keynes as “a closet post Keynesian, harboring all kinds of heresies but suppressing them for the sake of perceived polemical advantage!” Another comment (Robert Prasch’s) questions the idea that Sraffian supply fits well with Keynesian demand. Had Keynes thought it did fit well, why did he not say so? Why did he say, instead (in his often quoted letter to George Bernard Shaw), that “when my book has been duly assimilated and mixed with politics and feelings and passions, . . . the Ricardian foundations of Marxism will be knocked away”? Prasch is persuasive that what Keynes believed would be “knocked away,” here, was Sraffa. If the grab-bag features of Post Keynesianism are left undiscussed while the relevance of Sraffa is in some doubt, then the term Post Keynesian

fundamentalism seems appropriate. Further, the volume's editor, if not all the contributors, may not be so tightly bound to the "Post," in which case we would be back to the uninterpreted utopian Keynes.

It is one thing to proclaim that Keynes was a Keynesian, (again) as Rothbard so often did; it is quite another to treat Keynes's vision as a relevant or fruitful reflection of economic reality. But *The State of Interpretation of Keynes* will strike the reader as something of a stocktaking; the papers constitute background reports that form the basis for updating the Post Keynesians' research agenda. As explained in the editor's introduction, Keynes's ideas deserve—and now may get—a fresh hearing. The particular occasion for this stocktaking together with the particular focus of several of the papers is both curious and revealing.

There are two circumstances that have combined to put the original Keynes back in the limelight. First, there is the crumbling of bastardized Keynesianism with its graphical apparatus and algebraic expression of government-spending multipliers and tax multipliers and all that. Neoclassical modes of thought have long restricted the thinking of mainstream economists and have made Keynesian economics look very unKeynesian. Recent trends, according to Davis, have been in the direction of flouting the strictures imposed by formal Neoclassicism and exploring a number of issues, including those of power and entrepreneurship. Methodological permissiveness may allow economists to look beyond the formalized income-expenditure relationships and get a fresh view of the *General Theory*. Second, Keynes's ideas seem to Davis to have a certain relevance in Keynes's time and in ours—a relevance that may have been lacking during most of the post World War II period. The decades-long capitalist-communist stalemate separated two periods characterized by political pluralism, relative disorder, and internationally based uncertainties. So the time is right, once again, to focus on the expectations that govern the economic process in the face of uncertainty and to think about the institutional arrangements most conducive to a healthy economy.

Davis finds similarities in the 1930s and the 1990s in terms of global political turbulence. He fails, however, to give due weight to the key difference between these two periods. In the 1930s the world was moving rapidly in the direction of centralization; in the 1990s it is undergoing substantial decentralization. Ironically, the perceived similarities of circumstances then and now cause Davis and several other contributors to this volume to rethink

the meaning of Keynes's call for "a somewhat comprehensive socialization of investment."⁴ A healthier reading of world history might have caused these scholars to rethink the meaning of Ludwig von Mises's claim of the "impossibility of economic calculation under socialism."⁵ In fact, the very concepts that Davis hopes to see back in play, such as the concepts of power and entrepreneurship, help to bolster Mises's case for decentralized decision making.

As with almost every other aspect of Keynes's writing, the phrase "socialization of investment" is in for some interpreting. What did Keynes have in mind? While no one believes that he was thinking of outright state ownership of the means of production, other possible meanings involve further questions that neither Keynes nor his followers have adequately addressed. It is clear in his discussion following the call for socialized investment that Keynes is concerned with the "volume" and not the "direction" of employment. Keynes argues as if the government—or rather, "forces outside the classical scheme of thought"⁶—could control the volume without affecting any other aspect of the market economy. What sort of powers would government have to wield to be able to exert such a force? And how would the quality of entrepreneurial decisions be affected if entrepreneurs had to anticipate the use—and possible misuse—of such powers? There are no answers to these questions that put socialization in a favorable light. The simple fact is that the conceptually distinct aspects of "volume" and "direction" as applied to employment or output are governed by a single set of market forces. Joan Robinson, who recognized the actual unity of these market forces but favored a more wholesale form of socialization, chided Keynes for even wanting to control volume without controlling direction. Direction, in her view, needed some controlling, too.⁷

In an alternative interpretation, one discussed in Hans Jensen's contribution, "forces outside the classical scheme" are not exerted by the state *per se* but rather by semi-public bodies. Keynes seemed to have envisioned large, privately owned firms

⁴Keynes, *General Theory*, p. 378.

⁵Ludwig von Mises, *Human Action: A Treatise on Economics*, 3rd rev. ed. (Chicago: Henry Regnery Company, 1966), p. 698.

⁶Keynes, *General Theory*, p. 378.

⁷Joan Robinson, "What Has Become of the Keynesian Revolution?" in Milo Keynes, ed., *Essays on John Maynard Keynes* (Cambridge: Cambridge University Press, 1975), pp. 123–31.

with public-spirited managers. Readers of Keynes or of the Davis volume can only wonder what kind of power the state needs in order to maintain a public-spiritedness among these managers—and, again, what this kind of power might do to the entrepreneurial spirit among them and others. A discussion by Robert Dimand offers still another interpretation of the socialization of investment. Several years before the *General Theory*, Keynes had proposed a National Investment Board that would give the government some control over the volume of investment. An NIB, though, sounds suspiciously like a peacetime version of the United States' War Industries Board of the World War I era. Rothbard is noted for identifying the WIB as an important precursor of the subsequent New Deal policies that came to be closely identified with so-called bastardized Keynesianism.⁸

The Post Keynesians seem to be seriously concerned about what, exactly, Keynes may have had in mind. Many of the contributors, and especially Davis himself in his discussion of "Keynes's Philosophical Thinking," employ a what-did-he-know-and-when-did-he-know-it strategy in their attempts to sort things out. Davis also warns against a careless mixing of Keynes's philosophy and economics: Ideas are not easily transplanted whole across decades and disciplines. The alternative that none of the contributors considered is the simplest one—though not the most satisfying for those who consider Keynes the fountainhead of economic wisdom: Keynes himself did not know what he meant. Keynes did not know what the appropriate supply-side counterpart to his theory was. He did not think through the implications—or recognize the virtual impossibility—of a zero rate of interest. He did not know how, exactly, a comprehensive socialization of investment could be implemented. Neither, we might add, did the more radical socialists have any clear ideas on the particulars of the economic mechanisms in a socialist state. These and similar answers to many other questions seem to be the most plausible basis for understanding the *General Theory*.

The viability of Keynesian economics, bastardized or otherwise, may be as hotly contested now as it was in Keynes's own time. And the Post Keynesian interpreters, with or without the

⁸Murray N. Rothbard, "War Collectivism of World War I," in Ronald Radosh and Murray N. Rothbard, eds., *A New History of Leviathan: Essays on the Rise of the American Corporate State* (New York: E. P. Dutton, 1972), pp. 66–110.

hyphen, may never discover just what, exactly, Keynes meant. But as interpretations continue to proliferate, this collection of papers provides its readers a close encounter with the original Keynes. The experience may cause them to doubt whether Keynesianism in any of its guises can provide a healthy understanding of economic reality or a suitable guide to prescribing policy or proposing reform.

Intimidation by Rhetoric

Murray N. Rothbard[†]

Knowledge and Persuasion in Economics

Donald N. McCloskey

Cambridge: Cambridge University Press, 1994

Professor Donald McCloskey of the University of Iowa in recent years has spectacularly “reinvented” his career. At first, he built a solid reputation as a journeyman economic historian. Later, he cleverly used that base to make a histrionic Great Leap Skyward, to become one of economics’ best known gadflies, critics, and methodologists. In particular, McCloskey has invented a new methodology called “Rhetoric,” an import from literary theory. In his latest book (p. xv), his third on rhetoric and economics, he “sets economics beside philosophy,” turning his attention to philosophy, and attempting to refute his myriad of critics within the economics profession.

“Rhetoric” is kissin’ cousin to the short-lived “hermeneutics” movement in economics, and indeed he helped contribute to that movement.¹ Like his friends the hermeneuticians, McCloskey insists that economics must be an eternal and perpetually “open” “conversation.” Like the hermeneuticians, he is a nihilist and a

Murray N. Rothbard (1926–1995) was S. J. Hall distinguished professor of economics at the University of Nevada, Las Vegas and editor of *The Review of Austrian Economics* (1987–1995).

¹Donald N. McCloskey, “Storytelling in Economics,” in Don C. Lavoie, *Economics and Hermeneutics* (London and New York: Routledge & Kegan Paul, 1990), pp. 61–75. For a critique of hermeneutics, see David Gordon, *Hermeneutics vs. Austrian Economics* (Auburn, Ala.: Ludwig von Mises Institute, 1986); Murray N. Rothbard, “The Hermeneutical Invasion of Philosophy and Economics,” *Review of Austrian Economics* 3 (1989): 45–59; and Hans-Hermann Hoppe, “In Defense of Extreme Rationalism: Thoughts on Donald McCloskey’s *The Rhetoric of Economics*,” *Review of Austrian Economics* 3 (1989): 179–214.

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village relativist. The difference is that McCloskey is far shrewder than they. In two ways: first, because he has a lock on the term "rhetoric," and can ring the changes on that word; and second, because he is far more elusive and evasive, far more the "artful dodger," than his stodgy and plodding hermeneutical comrades.

Rhetoric, McCloskey tells us, is the art of persuasion, and McCloskey has certainly learned the dark side of this art. The first phase of his rhetorical game was to trumpet himself as a great writer, ridiculing various established economists for terrible, jargon-filled writing. Here, McCloskey was shooting fish in a barrel; most economists have horrendous writing styles, *and they know it*. Hence, McCloskey was hitting mainstream economists where they were most vulnerable. As a result, McCloskey was able to establish himself in the minds of the profession as a great stylist and writer. Using rhetoric as intimidation, he was able to bully the rest of the profession into handing him, without real evidence or analysis, this crucial accolade.

In actual fact, McCloskey is not even a good, much less a great, writer. His new book, for example, is an inchoate mishmash of assertion, gossip, anecdote, phony Socratic dialogue, off-hand attack, and unsupported rumor. Gossip, of course, is easier, and certainly more fun, to read than theoretical argument, and McCloskey has now established himself as the Cindy Adams of the economics profession, methodological branch. Indeed, it is curious that a distinguished university press should lend its imprint to this farrago, presumably because they too were intimidated by McCloskey's self-promotion as a great stylist. Actually, two truly fine writers are both *bêtes noires* of McCloskey: Stigler and Schumpeter. Both were all that McCloskey is not: lucid, penetrating, and gifted with a graceful style and witty turn of phrase. But presumably, they were too old-fashioned and "linear" for our rhetorician.

Having once established himself as a great writer, McCloskey now could wield a powerful if implicit club over his critics. For it turns out, monotonously and one after the other, that none of McCloskey's critics understands him. Every one of them is mired in his preconceptions, in some cases his mind "hard wired" to reject the McCloskeyan light. Either they don't understand philosophy, or they understand philosophy all too well. If they are neoclassicals or various brands of positivists, they are blind to McCloskeyan insights. If they think that "rhetoric" or "metaphor" is unscientific, then don't they know that all science is

"metaphor" anyway, that presumably there is no difference between the law of gravitation and one of McCloskey's gossipy pronouncements.

But McCloskey is nothing if not an evasive and slippery brokenfield runner, always presenting a moving target. To those neoclassical economists who attack him as a nihilist and an enemy, he protests that, no no, he too is down deep a neoclassical, except a neoclassical on a higher and more sensible methodological level. To the leftists and institutionalists who embrace McCloskey for the same reason, he protests similarly that while *his* critiques of mainstream economics seem to be the same as theirs, he is really a mainstreamer. One by one, none of his critics get it; everyone is blind, confused, out of it.

Ordinarily, if we find a writer, in whatever discipline, whom no one seems to understand, the onus will quickly begin to fall upon the writer himself: maybe no one understands him because he is incoherent, self-contradictory, in short, incomprehensible. But McCloskey had already cunningly precluded that reaction by entrenching himself as a uniquely great writer, so that the fault must always lie with his critics.

Throughout all of McCloskey's razzle-dazzle, however, he really only has one arrow in his rhetorical bow. To McCloskey, the good is to be "open," the bad to be "closed," a viewpoint that he embraces as *Sprachethik*, a typical McCloskey ploy—making a term more portentous by putting it into a foreign language. And sure enough, at bottom McCloskey has only one rebuttal to his host of critics; *they*, without exception, are "closed," whereas *he*, of course and by definition, is "open." Q.E.D. And it is not very long into his discourse that we come to realize what, for McCloskey, is the practical definition of these two words: someone is "open" if they agree with him, "closed" to the extent that they disagree.

In short, in addition to being its Cindy Adams, Donald McCloskey is even more the Humpty-Dumpty of the economics profession. "When I use a word," said this distinguished rhetorician who unfortunately had the satirical bent that the *serioso* McCloskey totally lacks, "it means just what I choose it to mean—neither more nor less." To which the egg-shaped one significantly added: "The question is which is it to be master—that's all." Unfortunately, McCloskey has gotten away with his rhetoric of mastery far too often.

If we come down from the lofty heights of methodology, how accurate is McCloskey as an observer or historian of modern economic thought and opinion? Let us consider two examples. One

is his treatment of the allegedly "closed Austrianism" of myself and of *The Review of Austrian Economics* [RAE]. In this case we find the rhetorician as purveyor of unsubstantiated rumor: "The *Review* is known in Austrian circles as carefully excluding all but Rothbard's views" (McCloskey, *Knowledge and Persuasion*, p. 314). How does he establish this statement? McCloskey's one piece of "evidence" is that Hans-Hermann Hoppe, reviewer of McCloskey's *The Rhetoric of Economics* in the RAE, and not coincidentally one of its most effective critics, "is an academic colleague of Rothbard's," that is, at the University of Nevada, Las Vegas. Now, surely, McCloskey is familiar enough with academic life not to be employing this statement as anything but rhetorical deceit. Surely, he must know that to be in the same economics department as someone else does not imply agreement. Indeed, of the dozen and a half members of the UNLV economics department, Hoppe and I are the only ones whom any reasonable person would dub as an "Austrian" in any sense, whether "open" or "closed." McCloskey's only other argument is characteristic: the weasel phrase "known in Austrian circles." McCloskey, as a supposed scholar and historian, might have checked the record of the RAE before treating gossip as fact. If he had done so, he would have found that the RAE has included articles by such distinguished economists as Leland Yeager, Richard Timberlake, Lowell Gallaway, Richard Vedder, Charles W. Baird, Robert Higgs, Israel M. Kirzner, Bruce Caldwell, W.H. Hutt, and Gordon Tullock, not one of whom could be called, by even the most fevered imagination, a "closed Austrian" à la the dread Rothbard: "careful exclusion"?

The second example of his accuracy is the embarrassingly ignorant and self-contradictory way in which McCloskey treats the great Joseph Schumpeter. First, he claims Schumpeter as a paradigmatic neoclassical upholder of the Whig Theory of the history of economic thought, that is, a believer that any dominant economic thought is superior to that at any earlier period of time, since the history of thought consists in testing one's theories, improving one's logic, and marching step-by-step, over time, into the light of more and more complete truth.

There is indeed a grain of truth in pinning this label on Schumpeter (he certainly believed in the progress of economic thought, and he revered Walras, the founder of the neoclassical paradigm, as "the greatest economist of all time"), but to dub him a Whig historian can only be called a grotesque caricature. Later in the book (p. 146), McCloskey mentions Schumpeter's famous

attack on “the Ricardian Vice,” without realizing that one of the basic themes of Schumpeter’s famed *History of Economic Analysis* was a bitter and sustained attack upon Smith and Ricardo, their scuttling of the Scholastic and Continental tradition of scarcity-and-utility analysis of value, and their consequent shunting of economics onto a path (“classical economics”) from which it took economics a century to recover (in the form of Walras and the other “marginalists”). Whatever it is, a belief in a century-long and profound worsening of dominant economics can scarcely be called a “Whig theory!”²

Trying to squeeze Schumpeter into the positivist Stigler–Blaug mould, McCloskey then gets the “Ricardian Vice” all wrong, claiming that for Schumpeter, this vice is “applying blackboard propositions, untested, to the world” (McCloskey, *Knowledge and Persuasion*, p. 146). McCloskey cites page 473 of Schumpeter’s volume, but if we turn to that page we find a completely different account (as how could we *not* from a fervent adherent of Walras’s surely “untested” set of general equilibrium equations). For Schumpeter’s criticism is not at all that Ricardo’s theory was not empirically tested. Schumpeter denounces Ricardo, because, unlike his Continental predecessors and indeed unlike Walras to come, he was in no sense concerned with a “comprehensive vision of the universal interdependence of all the elements of the economic system.” Instead, Ricardo

cut that general system to pieces, bundled up as large parts of it as possible, and put them in cold storage—so that as many things as possible should be frozen and “given.” He then piled one simplifying assumption upon another until, having really settled everything by these assumptions, he was left with only a few aggregative variables between which, given these assumptions, he set up simple one-way relations so that, in the end, the desired results emerged almost as tautologies. For example, a famous Ricardian theory is that profits “depend upon” the price of wheat. And under his implicit assumptions . . . this is not only true, but undeniably, even trivially so. Profits could not possibly depend upon anything else, since everything else is “given,” that is, frozen . . . The habit of applying results of this

²Indeed, Schumpeter’s *History of Economic Analysis* (New York: New York University Press, 1954) was notable in its pioneering resurrection of Scholastic economics from its long misrepresentation and neglect at the hands of the dominant British and American tradition—scarcely the work of a Whig historian!

character to the solution of practical problems we shall call the Ricardian Vice.³

In the past two decades, the collapse of arrogant positivism in the philosophy profession, and the severe decline of the allied Keynesian–Walrasian neoclassical paradigm in economics, has led to a veritable “crisis situation” in all areas of economic theory, in particular among the methodologists who are concerned about the philosophical and methodological groundwork of economics. This crisis situation has been a healthy one, for it has mainly dislodged the previously ruling and false paradigms, and allowed room for the jostling of many new doctrines, competing for attention and dominance. But the flip side of this salubrious situation is that standards in general are lowered, and a lot of nonsense and absurdity gets to pass as sober and profound contributions to the discipline. Donald McCloskey and his inchoate and ill-informed “rhetoric” is an outstanding example. It is precisely in exciting times of methodological crisis that we need to have our built-in claptrap-detectors honed and sharpened. To the extent that they are, McCloskey’s work will receive the clear-eyed treatment it so richly deserves.

³Ibid., pp. 472–73.

Book Review

Economic Thought Before Adam Smith (vol. I)
and *Classical Economics* (vol. II)

Murray N. Rothbard

Aldershot, England and Brookfield, Vt.: Edward Elgar, 1995

On first seeing Murray Rothbard's two volumes, I regretted having agreed to review them, for they cover the history of thought only up to about 1870, when, in my view, economics begins to get really interesting. Actually reading them changed my mind. Rothbard—not just the libertarian guru but the joyful and indefatigable scholar—makes the thinkers even of reputedly dreary epochs come alive.

As he says, his history “is much longer than most since it insists on bringing in all the ‘lesser’ figures and their interactions as well as emphasizing the importance of their religious and social philosophies as well as their narrower strictly ‘economic’ views” (I, p. xiii). Lao Tzu (around sixth century B.C.), leader of “the world’s first libertarians,” receives respectful attention (I, pp. 23–26). So do the pre-Socratics, Xenophon, and, with much qualification, Aristotle, whereas Plato is classified as a “right-wing collectivist” (I, chap. 1). Even Amos Kendall gets credit for his subjective value theory and “the first expression of the law of diminishing marginal utility” in his Kentucky newspaper in 1820 (II, pp. 130–32). Rothbard regrets that Ricardo and his epigones did not read and understand Kendall’s rejection of any objective standard of value.

Appropriately in volumes subtitled *An Austrian Perspective on the History of Economic Thought*, Rothbard grades earlier economists high or low according to how they anticipated subjectivist and marginalist achievements or obstructed intellectual progress. He writes smoothly and, especially in his appraisals, with touches of humor.

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His appraisals extend to earlier historians of thought. S. Leon Levy's biography of Nassau Senior is "chatty and uncomprehending" (II, p. 485). Samuel Hollander's "massive and bizarre project to transform all the classical economists into perfect little propounders of neoclassical, general equilibrium doctrine" suffered a "devastating and most welcome demolition" at the hands of T. W. Hutchison (II, p. 492).

Mostly, of course, Rothbard appraises the economists themselves. He lambastes David Ricardo's "abysmal writing, in style and organization" and goes on to quote Alexander Gray's similar judgment. "For all too many people," however, "obscurity and bad writing equal profundity." Obscurity has charms both for the great man and for the adepts who cluster around him (II, p. 103). With evident relish Rothbard quotes H. L. Mencken at length on the flatulent banalities of Thorstein Veblen's prose (II, p. 153).

Bishop Berkeley wrote *The Querist*, containing his major pronouncements on economic questions, "solely as a series of 900 loaded questions, by which [he] hoped to influence public opinion through sheer rhetoric without having to engage in reasoning" (I, pp. 331-32). "On his farm [J. C. L. Simonde de Sismondi] fought against overproduction in his own dotty way: making sure that production would be as low as possible by choosing the feeblest workers for employment on his farm, and deliberately having his house repaired by an incompetent worker" (II, p. 34).

"[Jeremy] Bentham functioned as the Great Man, scribbling chaotically on endless and prolix manuscripts elaborating on his projected reforms and law codes. . . . The affluent Bentham lived in a capacious house surrounded by flunkies and disciples, who copied revision after revision of his illegible prose to get ready for eventual publication. He conversed with his disciples in the same made-up jargon with which he peppered his writings" (II, p. 49). "[I]n 1804, Jeremy Bentham lost interest in economics, a fact for which we must be forever grateful. It is only unfortunate that this waning of zeal had not occurred a half-decade before" (II, p. 55). (Rothbard reinforces my own impression of Bentham as an unattractive person, illustrated by his obsession with his Panopticon project. I doubt, though, that Bentham's personality should automatically discredit all philosophical doctrines linked, however loosely, with his name.)

As for John Stuart Mill, "It is difficult to think of anyone in the history of thought who has been more egregiously and

systematically overestimated" (II, p. 491). Despite Gertrude Himmelfarb's notion of two Mills, the (good) conservative moralist and the (bad) libertarian, Rothbard sees "only one Mill—multi-faceted, self-contradictory, kaleidic, devious, muddled and filiopietistic" (II, p. 493). "It is impossible to estimate how much of John Stuart Mill's inveterate and eternal contradictions, qualifications and alterations were due to honest muddle-headedness and how much to devious and evasive intellectual broken-field running" (II, p. 279). (While not challenging Rothbard's judgments on specific points, I'll confess to liking much in Mill's work, particularly parts of *Utilitarianism*, *On Liberty*, and *Considerations on Representative Government*. Mill was not as pervasively wrong or evil as, say, Karl Marx. A reader may as well get what he can from a serious writer. When one is trying to think one's own way through some topic by pulling together one's own and other people's ideas, the question of *overall* assessment of those people, however unfavorable, need not intrude.)

Rothbard crisply summarizes his judgments on a couple of Marxian concepts. "Alienation', to Marx, bears no relation to the fashionable prattle of late twentieth century Marxoid intellectuals" (II, p. 349). Regarding the material dialectic, "It is difficult to state this position without rejecting it immediately as drivel" (II, p. 377).

As I have already suggested, Rothbard breaks away from the second-handism and parroting that characterizes much history of thought. He doubts the sainthood of Adam Smith (esp. I, chaps. 16 and 17). Smith slipped backward from David Hume's insights into monetary theory and balance-of-payments analysis. He dropped earlier contributions about subjective value, entrepreneurship, and emphasis on real-world markets and pricing and replaced it all "with a labor theory of value and a dominant focus on the unchanging long-run 'natural price' equilibrium, a world where entrepreneurship was assumed out of existence" (I, p. xi; cf. summary judgment at I, p. 501). He mixed up Calvinism with economics, as in supporting usury prohibition and distinguishing between productive and unproductive occupations. He lapsed from the *laissez faire* of several eighteenth-century French and Italian economists, introducing many waffles and qualifications. His work was unsystematic and plagued by contradictions. He came close to plagiarism while accusing others of it. Rothbard credits Paul Douglas for a relatively clear-eyed assessment at a University of Chicago commemoration

of the 150th anniversary of *The Wealth of Nations*. He also cites Joseph Schumpeter's dissent from the conventional admiration of Smith.

David Ricardo also fares badly at Rothbard's (and Schumpeter's) hands (II, chaps. 3 and 4). Ricardo dealt more in aggregates and in supposed long-run equilibria and other abstractions than in realities; he did not fully understand the principle of comparative advantage, which was less his own idea, anyway, than James Mill's; he was less interested in what fosters and what impedes the creation of wealth than in its distribution among broad social classes; he clung to a cost theory and indeed mostly a labor theory of value; he gave ammunition to Marx.

Reading Rothbard makes me more willing than before to confess my own judgments (derived from reading *The Wealth of Nations* and *The Principles of Economics and Taxation* longer ago than I care to admit) that Smith and Ricardo are downright tedious, especially taken in large doses.

Rothbard's adverse assessments are perhaps more fun to read and quote than the reverse, but I must not leave the impression that he gives out little praise. His heroes include several of the scholastics who flourished from the thirteenth century into the seventeenth century, including members of the Spanish School of Salamanca. They had insights into subjective-value theory and understood the "just price" as the competitive market price rather than as a theological concept. Richard Cantillon was "the founding father of modern economics," writing the first systematic treatise. A. R. J. Turgot made brilliant contributions in several areas, even though his writings on economics add up to fewer than 200 pages. J. B. Say had sound insights into value theory, macroeconomics, the role of the entrepreneur, the rationale of *laissez faire*, and methodology. Nineteenth-century debates on money and banking were instructive.

Anyone writing history, including intellectual history, must focus attention selectively. Rothbard's own preferences come across, but without unpleasant obtrusiveness. While not trumpeting it, he exudes an evident sympathy for workers, peasants, and the poor; he is no apologist for the rich and powerful. Repeatedly if briefly he shows sympathy with doctrines of natural law and natural rights and, more broadly (and regretably, in my own view), with some sort of anti-utilitarian ethics. He takes a Lockean position on the origins of legitimate property rights, correctly noting that a labor theory of property is not at all the same as a labor theory of value (I, pp. 56–58).

Rather to my surprise, he manages to find several predecessors for his own advocacy of 100-percent-reserve money (II, 210–16, chap. 14, and *passim*).

On a few points, Rothbard seems to have changed his mind, or his rhetoric. He does not insist as emphatically as before on a purely subjective theory of value and a pure-time-preference theory of interest. He explains that degrees of scarcity interact with subjective appraisals to determine marginal valuations and that objective factors help determine degrees of scarcity. In interest theory he illuminates the interaction of subjective time preference with the greater productivity of well-chosen roundabout methods of production (II, pp. 22–24, 139, 141); and he has words of praise for Böhm-Bawerk, who recognized this interaction of subjective and productivity factors.

In contrast with his own *America's Great Depression* (esp. chap. 4), where he used an imaginatively broadened definition of the money supply to discuss monetary inflation in the 1920s, Rothbard now reverts to the narrow medium-of-exchange definition (II, pp. 164, 183, 251). In scattered remarks on business-cycle theory, he retains a monetary interpretation without always insisting on the specific "Austrian" scenario of Mises and the early Hayek.

Rothbard no longer endorses Hans-Hermann Hoppe's claim to derive libertarian policy positions purely from the circumstances of discussion itself, without any appeal to value judgments (cf. *Liberty*, September and November 1988). On the contrary, and as he had done earlier, Rothbard now correctly observes that policy recommendations and decisions presuppose value judgments as well as positive analysis (II, p. 119 and *passim*).

In welcome contrast with familiar Austrian maundering about methodology, Rothbard makes sensible remarks, smoothly working them into his appraisals of earlier writers. Nassau Senior gets good marks. Bad ones go to Sir William Petty, the supposed father of econometrics, and to David Ricardo and John Stuart Mill. Readers should not be misled by Ludwig von Mises's unusual use of the words *a priori* in characterizing economic theory. Economics deduces its theorems from axioms, axioms of such pervasive validity and crushing obviousness that we can scarcely imagine persons, societies, and worlds of which they were not true. (For example, resources are scarce relative to almost unlimited wants; choices must be made; and people act purposefully, taking account of the expected consequences of

alternative courses of action. Besides scattered passages in these two volumes, see Rothbard's article in the *Southern Economic Journal*, January 1957).

If I had an opportunity to do so—which, sadly, none of us ever will—I would quibble with Rothbard on several points. He describes the function of the landlord as that of deciding or administering the allocation of pieces of land among rival uses (II, p. 91). This view seems too narrow to explain the huge rents that some landlords collect; it requires integration with capital and interest theory. As a capitalist, the landlord collects something closely akin to interest for waiting, meaning the tying up over time of wealth that might otherwise have been used to bid resources into serving his consumption or other near-term purposes. At least potentially, furthermore, the landlord organizes the provision of spatially confined civic goods, often called public goods (Fred Foldvary, *Public Goods and Private Communities* [Aldershot, England and Brookfield, Vt.: Edward Elgar, 1994]). I'd like to discuss Rothbard's evident complacency about monetary deflation (e.g., II, p. 174) and his attacks on utilitarianism (esp. II, chap. 2).

I am approaching a conclusion. Rothbard's riding his hobbies contributes to the charm of his work. Although not evidently religious himself, he took interest in religion as a social phenomenon and as an influence on thinking about secular matters. He may occasionally have been carried away, as in devoting a dozen or so pages to the Anabaptists of the sixteenth century. Yet even this digression is not entirely irrelevant to the emergence of economic ideas—the Anabaptists were early communists—and it and similar digressions do help make his history eminently readable.

No one surveying so many thinkers in such detail as Rothbard does could have read every word of their every major work. Reliance on secondary sources was inevitable. Rothbard is frank and generous in recognizing the scholarship of their authors, including ones who did not share his political views. He often cites Joseph Schumpeter, Emil Kauder, Alexander Gray, Marjorie Grice-Hutchinson, John T. Noonan, and F. A. Hayek (whom he treats respectfully, although not without plausible criticism on specific points, as at I, p. 527). I was delighted to see recognition given to his and my Columbia professor Joseph Dorfman and to my Oberlin professor Raymond de Roover. In using secondary sources, Rothbard does not merely pluck from them; he assesses them, as is important for identifying

understandings and misunderstandings about the history of the discipline.

The degree of documentation given for specific statements varies among sections of the two volumes. Even an occasional direct quotation goes without citation. Trivial lapses like these, coupled with my own merely amateur knowledge of Rothbard's subject matter, keep me from authoritatively vouching for the accuracy of his every statement.

Rothbard's work helps underline why economists should study the history of thought. The Whig theory of history as applied to science is wrong—the standard “complacent and infuriating Panglossian optimism” that forgets the real possibility of deterioration. Rothbard shares Thomas Kuhn's “less than starry-eyed view of science,” yet without adopting Kuhn's “nihilistic philosophic outlook.” Especially in economics, “[t]here can . . . be no presumption whatever . . . that later thought is better than earlier” (I, Introduction).

Although not using the term “frontiersmanship,” Rothbard is aware of the phenomenon—the self-congratulatory attitude of workers on the supposed frontiers of economic science who scorn attention to work of earlier generations as mere antiquarianism on the ground that anything worth knowing is already incorporated into their discipline's current wisdom. Unlike the frontiersmen, Rothbard knows that earlier progress can get forgotten. So can earlier fallacies, which keep getting independently rediscovered and commanding attention. Examples are versions of the real-bills doctrine blaming balance-of-payments deficits for the depreciation on the foreign-exchange market of currencies undergoing inflation.

Less so in economics than in the natural sciences do valid discoveries get embodied not only into pure knowledge but also into technology, many of whose users have a profit-and-loss incentive to get things straight. That incentive is notoriously perverted or weak for politicians and special-interest lobbyists. In economics, therefore, we need scholars who specialize in keeping us alert to old contributions—and old fallacies—masquerading as new truths. Specialists in economic thought should also be alert to the danger of an approach that stresses the work of a few great men and strives mightily to interpret their writings as justifying admiration traditionally accorded them. The resulting intellectual atmosphere may well contribute to robbing Rothbard's lesser figures (like Kendall of Kentucky) of the attention that their not-yet-fashionable ideas merited.

Rothbard occasionally (e.g., II, p. 456) mentions economists to be covered or points to be developed in a “later volume” of his mammoth project. These promises have now become poignant. Anyway, Rothbard’s work will suggest research topics and provide inspiration for rising generations of Austrian economists.

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