Institutional Requirements for Stable Free Banking

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> If bankers are restrained from issuing any circulating bank notes, or notes payable to the bearer for less than a certain sum; and if they are subjected to the obligation of an immediate and unconditional payment of such bank notes as soon as presented, their trade may, with safety to the public, be rendered in all other respects perfectly free.
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> —Adam Smith[1]

Introduction

Free banking is a rare phenomenon. But it has been permitted, to some degree, at various times in a number of different countries. Two examples have recently drawn considerable attention. In the United States, from the destruction of the Second Bank of the United States until the Civil War, and in Scotland from the very beginning of banking until the extension of Peel's Act to Scotland, banking was relatively free of legal constraints. Over the last decade or so a number of economists and historians have been examining these experiments. My own work (Rockoff 1974, 1975a, 1975b), and more recently that of Arthur Rolnick and Warren Weber (1983, 1984, 1985) and Robert King (1983), have served to strengthen the view that American free banking worked much better than earlier generations of banking historians believed. Similarly, in the case of Scottish free banking, the studies by Rondo Cameron (1967), S. G. Checkland (1975a), Charles Munn (1981), and Lawrence H. White (1984) have created a highly favorable portrait of Scottish free banking. The time has come, I believe, to compare these experiences, and to ask whether there

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[1]Smith (1776, p. 350).

are any general conclusions that can be drawn from this literature about the extent to which freedom from legislative restraints is appropriate in banking.

What generally distinguished the American and Scottish free banking systems from others in the minds of contemporaries was freedom of entry. Under the American system, banks did not have to apply for a charter from a state legislature; the charter was issued automatically, provided certain uniform requirements were met. The Scottish system was notable in that a Scottish banking company could have any number of partners, while in England the maximum until well into the 19th century was six. Free banking in America and Scotland was also free in the sense that banks could issue notes that circulated as hand-to-hand currency. But the privilege of note issue was one which in those days was given to many private banks, although in many cases subject to various restrictions, and was not the distinguishing feature in the minds of contemporaries. Banks were also generally free of reserve requirements, with the exception of notes in the United States.

Even though American and Scottish banks were relatively free of legal constraints, there were still several restrictions, including requirements that notes be instantaneously convertible into base money, and, in the United States, that notes be backed by government bonds. The question is whether such restrictions were necessary for the success of free banking or whether they hindered its development. A comparison of the American and Scottish experiences will not be sufficient to resolve this qustion, for each system was bound by a set of regulations that makes it difficult to determine the independent effect of one restriction from a comparison of the two systems. Nor was there sufficient variability in the regulations over time to untangle the effects of separate regulations. Nevertheless, some tentative conclusions are possible.

Convertibility

Perhaps the most important sense in which free banking was restricted in the American and Scottish experiments was the requirement that notes be fully convertible into gold or silver on demand. The idea that bank-issued currency be immediately convertible into some form of high-powered money is so ingrained that until recently most economic historians would have found it hard even to conceive of convertibility on demand as a restriction on banking; rather, it would seem more to be a definition of banking itself. But recently the proposal by F. A. Hayek (1976) that banks be free to issue cur-

rency on whatever terms they wish, and the theoretical work by some of the new classical macroeconomists that has questioned the wisdom of regulating the production of money,[2] has made the wisdom of instantaneous convertibility an open question.

There were two episodes during the free banking era, one in each country, in which immediate convertibility was missing, and in which some trouble developed. Although short-lived and economically insignificant, these episodes, nevertheless, were important in the development of ideas about banking. These episodes were the Scottish small note and option clause period, 1760 to 1764, and the Michigan wildcat banking episode of 1837 to 1838.

It was the Scottish episode that convinced Adam Smith, as the quote above shows, that banking could not be left totally free. Existing accounts of the period, however, are not wholly consistent, and this episode, I believe, merits further research. Smith's view seems to be that the banking system and firms linked to it produced, more or less spontaneously, an "excessive" expansion of bank money that was the result of the liberality of Scottish banking law. There were two basic problems. Many financially weak firms issued small notes (less than one pound), and the large chartered banks issued notes that contained an "option clause." The latter permitted the bank to refuse immediate redemption and repay later with interest. When the bank chose to exercise the option, it would date notes brought in for payment to establish the final redemption date. The option clause, in particular, broke the restraining influence of the convertibility requirement and, according to Smith, led to a large expansion of the money supply.

Smith is not as specific as he might be about the harm that he thought flowed from excessive issues of these types of notes. But he does mention (1776, p. 343) the effect on the poor produced by the high failure rate to be expected among issuers of small notes, and the depreciation of Scottish currency on exchange markets in the early 1760s which he attributed (1776, p. 346) to the option clause. Both types of notes were eliminated by legislation in 1765, although in other respects, most notably with respect to entry, the freedom of banking in Scotland was implicitly reaffirmed.

The Scottish Episode

The overissue of notes by the Scottish public banks was permitted, according to Adam Smith, by the option clause, but it still could have been avoided had another precept of sound banking been followed.

[2]See, for example, Sargent and Wallace (1982).

Smith (1776, pp. 328–32) describes the early 1760s as a period in which banks were led to overissue currency by the practice of discounting "fictitious" bills of exchange, which were drawn with the understanding that the acceptor would in turn draw on the original drawer. To a bank either of these bills might appear safe to discount. But to Smith these were not "real" bills, drawn when the acceptor was really under an obligation to the drawer arising out of ordinary trade. There seemed to be no limit to the number of these fictitious bills that could be created, and thus the danger of an overissue of currency when they were discounted.

Based on this experience, Smith laid down the famous real-bills doctrine—not as an explicit regulation to be enforced through the law, but as a precept of good conduct to be enforced through persuasion and custom.[3] Smith's support for the real-bills doctrine, as well as his opposition to small notes and the option clause are all rooted in his analysis of Scotland's banking expansion of the early 1760s.

While Smith's basic idea of an internally generated expansionary process is still the dominant view, later writers, following Sir James Steuart (1767, pp. 195–210) have distinguished between the behavior of small note issuers and Scotland's two largest banks, the Bank of Scotland and the Royal Bank of Scotland. Checkland (1975a, pp. 108–11), for example, cited the decision of the Bank of Scotland to issue notes below one pound in June 1760 as a sign that it was joining in the expansion, but contrasted it with the decision by the two public banks to restrict credit beginning as early as January 1762. These restrictive actions were presumably brought on by the external drain of specie produced by such real factors as a poor harvest. Elsewhere Checkland (1975b, p. 508) has even suggested that the small notes may have been issued in response to the tightening of credit by the public banks, which were in turn responding to the drain of specie. The large banks, in other words, were in the main acting conservatively; the expansion was the fault of the smaller banks.

These views of the banking mania were formulated in the absence of data on the stock of money and reserves. Some balance sheets, however, are now available, thanks to the work of a number of scholars. The most important are for the Bank of Scotland. Obviously, data on one bank cannot reveal entirely what was happening to the system as a whole. Nevertheless, these data are worth examining because they suggest that both Smith's story and its more recent versions may be in error.

[3]Lloyd Mints (1945, p. 25) cites Smith as "the first thoroughgoing exponent of the real-bills doctrine."

Smith's story suggests rising monetary liabilities based on notes, and a stable or falling reserve base; in other words, a rapidly falling reserve ratio. The balance sheets of the Bank of Scotland (Checkland 1975a, p. 735) do show a rapid increase in monetary liabilities (notes and deposits) between 1759 and 1764. Total monetary liabilities rose from 98,000 pounds in 1759 to 146,000 in 1762 to 265,000 in 1764, a factor of 2.7 from start to finish. In this respect Smith's analysis seems more accurate than more recent accounts that attempt to depict the chartered banks as "leaning against the wind," restricting credit in order both to curtail the small note mania and preserve dwindling reserves of specie. Certain categories of lending may have been curtailed at one time or another, but it is difficult to reconcile a more than doubling of monetary liabilities with a restrictive monetary policy.

Other aspects of Smith's analysis are not fully supported, however. The share of notes in total monetary liabilities issued by the Bank of Scotland rose from 59.2 percent in 1759 to 71.2 percent in 1762, but then fell to 51.7 percent in 1764. More important, total reserves rose, and reserve ratios declined only moderately. Specie holdings rose from 3,000 pounds in 1759 to 5,000 in 1762, and to 7,000 in 1764. The ratio of specie to monetary liabilities only fell from 3.1 pecent in 1759 to 2.8 percent in 1762 and to 2.6 percent in 1764. The ratio of specie to monetary liabilities, moreover, did not rise after the option clause was prohibited, but actually trended lower in subsequent years. If one includes notes of other banks along with specie in the definition of the reserve ratio of the Bank of Scotland, then that ratio shows very little change over the crucial years, moving from 21.4 percent in 1759 to 22.8 in 1762 to 20.0 in 1764, and then trending lower in subsequent years.

The role of reserve ratio changes can be put into perspective in the following way. Between 1759 and 1764 the monetary liabilities of the Bank of Scotland increased by 167,000 pounds. About 78.2 percent of this increase can be ascribed to the increase in specie reserves in the sense that the observed increase in reserves would have produced this proportion of the observed increase in monetary liabilities had the reserve ratio remained unchanged. About 9.3 percent of the increase in monetary liabilities can be ascribed to the fall in the reserve ratio, and about 12.4 percent to the interaction of the reserve ratio and the stock of specie.[4] If we consider the relevant

[4]Computed from the equation $dM = dS(1/r) + d(1/r)S + d(1/r)dS$, where dM is the change in monetary liabilities, dS is the change in specie reserves, and d(1/r) is the change in the inverse of the bank's reserve ratio. The first term on the right gives the effect of a change in the specie stock, and so on. The figures in the text were then obtained by taking each term on the right-hand side as a percentage of the term on the left.

reserve to include highly liquid assets issued by other banks, then virtually all of the increase in the monetary liabilities of the Bank of Scotland can be attributed to a rise in its reserve base. At least in the case of the Bank of Scotland, Smith appears to have missed the major force driving bank behavior, namely, the rise in the reserve base.

Although balance sheets for the other chartered banks are not available for this period, my reading of the histories of these banks and other bits of evidence—for example, balance sheets of two lesser banks—seems to enhance rather than contradict the picture that emerges from the Bank of Scotland. My conjecture is that something very different from the standard story may have been at work here. The figures for the Bank of Scotland, along with other evidence, seem to be more consistent with the view that the real factor behind the expansion of Scottish banking in the early 1760s was a sudden increase in the reserves available to the banking system, perhaps the result of a capital inflow tied to the last years of the Seven Years' War. The increase in the stock of money could then have produced a generalized business expansion, and perhaps as interest rates temporarily rose, reserve ratios also fell somewhat, thereby contributing to the expansion. Such expansion would have been brought to an end by the legislation of 1765, and by the withdrawal of balances temporarily lodged in Scotland. If this conjecture, or something like it, proves correct, it means that this period cannot be cited as evidence that an *inconvertible* private currency has the potential to spontaneously produce an overissue.

The American Episode

There was a similarly influential episode in America. The first free banking law in the United States was adopted in Michigan in March 1837. Shortly after its passage, Michigan suspended specie payments following the panic of 1837. This set up a unique situation in which one could set up a bank and issue notes, but without the legal requirement of immediate convertibility. Perhaps 40 banks were set up under these conditions, many of them rather dubious affairs. Banking historians have been strongly influenced by tales of wildcat banking derived from this episode, although they have tended to neglect the suspension of specie payments that facilitated the establishment of new banks.

The point to be made here, however, is that the damage done by this expansion was limited because bank note reporters quickly disseminated information on the quality of the Michigan notes. According to Thomas Berry (1943, p. 444), large Michigan bank notes sold

at a 10 percent discount in Cincinnati by August 1837 and small notes could not be sold. He also found that in August 1838 Michigan country notes sold at a 50 percent discount in Cincinnati, Detroit bank notes sold at a 4 to 5 percent discount, and those of other midwestern states sold at par (p. 459). This system is closely related to the process that Hayek (1976, pp. 44–45) has claimed would monitor a free banking system. The "thousand hounds" of the press, to use his phrase, were after the Michigan banks. Free banking is not foolproof against bad-banking practices; nevertheless, market forces tend to minimize the damage and prevent reoccurrences.

In short, these brief digressions from full convertibility in Scotland and Michigan can hardly be taken as examples of commercial banking at its best, but neither can they be cited as proof that full and immediate convertibility is required for a sound free banking system. It might well be, as Milton Friedman and Anna Schwartz (1970, p. 115) have suggested, that such convertibility would be the outcome of market forces. Even so, the ready acceptance of currency bearing the option clause in Scotland before 1765 leaves this an open question.

Whatever dangers of overissue they might entail, option clauses would have permitted banks greater flexibility during crises. We have no evidence on how an option clause currency would have performed in later crises, but Friedman and Schwartz (1963, pp. 163–68) have made a strong case that the simple suspension of specie payments in the panic of 1907 had a therapeutic effect: it prevented the ultimate failure of banks that were sound in the long-run but temporarily illiquid. Greater legal flexibility in the convertibility requirement would have permitted a continuum to exist between full and instant convertibility and complete inconvertibility.

The imposition of instant convertibility may have been the real source of the widely perceived need for such mechanisms as a lender of last resort to create additional stability in the banking system. Regulations that placed a bank in jeopardy whenever it failed to meet a single note holder's demand for specie created the possibility that small demands for specie could lead to major disruptions of the banking system. In Scotland the law of 1765 made the penalty for failing to redeem a note on demand extremely heavy, 500 pounds sterling. Under American free banking laws, if a single note holder protested that his note or notes were not redeemed on demand, the state banking authority was required to redeem *all* of the notes of the bank out of the proceeds from the sale of bonds held in trust for this purpose. No wonder the banking system might prove unstable under pressure.

The Bond Security System

The American solution to the problem of providing additional stability was the bond security system, which required banks to deposit approved government bonds in some proportion to the notes issued by the bank with a state banking authority. This authority, as noted above, was required to sell the bonds and redeem the notes of the bank if it failed to pay specie on demand. A bond deposit system also was proposed for the Scottish banks while the Act of 1765 was under discussion, but was rejected (Checkland 1975a, p. 254).

The details of the American bond deposit system varied from state to state, but typically the law specified the list of eligible securities (with the bonds of the state in which the bank was located being a prominent item), the value placed on the security by the state banking authority (often the minimum of the par and market values), and the number of notes that could be issued for each $100 of bonds as valued by the banking authority. Thus, if a state bond with a par value of $100 were selling for $105, if the state banking authority were required to value it at the minimum of the par and market values, and if the bank were allowed to issue only $95 for each $100 deposited, the note holder would be protected by a margin of $10.

On the whole, the system often worked well; New York is the classic example. But it cannot be denied that there were difficulties. Calculations of the losses suffered by holders of free bank notes (Rockoff 1974; Rolnick and Weber 1983) have shown that losses were relatively small compared with what one might have expected from some of the dire language used by banking historians. Alternatively, James Kahn (1985) has shown that, in terms of failure rates and related statistics, at least some of the chartered banking systems outperformed the states that Rolnick and Weber examined. However, in some states with chartered banking systems, the issue of a charter by the state legislatures had become more or less automatic. These states enjoyed the benefits of free entry without tying their banks to the bond security system. Banking, in truth, may have been freer in some of the states with chartered banks than it was in the so-called free banking states.[5]

The problem that sometimes developed under free banking, as Rolnick and Weber (1984) have stressed, was that some outside shock affected the credit of the state, which in turn depressed the price of

[5]I do not know whether this was true of the states that Kahn contrasted with those in the Rolnick-Weber sample. But it was true, for example, of Massachusetts, which had a good failure record, and which according to Sylla (1985, p. 111) essentially had free banking after 1820.

government securities, and placed pressure on the banking system. The widespread banking difficulties in the midwest at the beginning of the Civil War are an example of this type of shock. Several Midwestern states had included Southern bonds on their list of eligible securities, and when the outbreak of the war put interest payments in doubt, the banking systems that held these bonds were placed in jeopardy.

Rolnick and Weber seem convinced that all the difficulties with the bond security system probably stemmed from outside shocks. My view is that in a few cases there was a different problem, which contemporaries knew as wildcat banking. If the number of notes that could be issued per dollar of bonds deposited was sufficiently favorable, entrepreneurs might be encouraged to set up banks for the sole purpose of making a quick profit. The question, however, is whether such situations were rare or nonexistent.[6] No one is arguing that wildcat banking was typical of American free banking.

Even if an outside cause could be assigned to every set of problems that developed under the bond security system, thereby showing that the system was inherently stable, the strength and desirability of the free banking system would still have to be established. The critical issue is whether there are alternative systems that are more shock resistant and, if so, whether it is wise to legally require them. To use Smith's analogy: discovering that wooden buildings do not spontaneously burst into flame does not prove that fire codes are unwise.

Rolnick and Weber (1985) have noted the absence of interstate contagion in bank runs during the free banking era. While several banks might go under in one state, banks in another state would be immune. Part of this probably was due to the provisions under the free banking laws requiring banks to make public their balance sheets. There was less likelihood of a panic when the public was informed. The bond security provisions also helped stem the contagion. Balance sheets were more readily understood when the assets

[6]Rolnick and Weber (1984) contrast their theory of why free banks failed (an outside shock hit the economy which lowered the value of bank assets) with one they attribute to me (all free banks that failed were wildcat banks). It would be inappropriate for me to answer the Rolnick and Weber paper in detail here. But I should note that I never intended to create the impression that all free bank failures were due to wildcat banking. I recognized that free banks failed for all sorts of reasons. To cite one example, Rolnick and Weber list Wisconsin as a state where free bank failures were not caused by wildcat banking. Even though I read some (possibly misleading) signs of incipient wildcat banking into the aggregate statistics, I attributed the bank failures, clearly enough, to "the massive deterioration of its Southern bond security produced by the Civil War" (Rockoff 1975, p. 107).

backing notes consisted of a few instruments traded on well-organized markets.

Part of the explanation, however, must be simply that banks in different states held different assets. Thus, to continue the fire code analogy, the bond security system inadvertently set up fire walls between the free banking systems. The obvious conclusion is that while these walls reduced the chance of the fire spreading from one state to another, they may have made the fire all the hotter within the affected states. In many states the bond security requirement forced banks to invest in extremely safe assets. But given the shakiness of state credit in certain parts of the country, there is no reason to think that a system requiring banks to invest solely in state bonds necessarily lowered the risk of a panic, compared with a system in which a greater diversity of assets was permitted.

There was yet another problem with the bond security system that tends to go unnoticed. The security requirements might be drawn so tightly that the law would turn out to be a dead letter (Rockoff 1975a, pp. 125–30). In particular cases it is difficult to decide whether the failure of entrepreneurs to make use of the free banking law was due to the bond security provisions, to other provisions of the free banking law, or to such factors as the liberal granting of charters under the existing system. Larry Schweikart (1985, p. 220) has speculated that southern bankers failed to make use of free banking laws because of their concerns about the legal status of free banks compared with chartered banks, or their capital requirements. But other things being equal, tough security requirements obviously reduced the incentive to set up free banks.

In sum, much sound banking was conducted under the bond security system in such states as New York and Ohio, but the difficulties that beset it suggest that it is not the key to successful free banking. Perhaps the best that one can say for the system is that if there must be legislation to protect note holders, and not incidentally to transfer resources to the state, the bond security system was at least the simplest and most straightforward.

Unlimited Liability

The bond security system was rejected in the Scottish case. A possible candidate as the Scottish alternative was a series of decisions which assured that a substantial portion of the Scottish note issue was produced by partnerships with unlimited liability, that is, notes

were insured by the wealth of the partners. American free banks, on the other hand, received limited liability automatically.

But a good case could be made that the relative stability of the Scottish system compared with the English was simply a result of the larger size of the Scottish banks rather than unlimited liability. In Scotland, as noted above, one could freely set up a banking company with any number of partners, although liability was unlimited. In contrast, banks in England could have a maximum of six partners, again with unlimited liability. Following a long line of historians, White (1984, pp. 47–49) has argued persuasively that this limitation on the size of English banks produced a higher failure rate in England. But it does not follow that the larger banks had to carry unlimited liability. The three largest banks in Scotland, moreover, were limited liability corporations, and none of them failed.

That there may have been economies of scale in banking at this time raises the question of whether the various restrictions imposed on banks were necessary to keep the number of banks sufficiently high to produce workable competition. According to White (1984, p. 36), there was no sign of natural monopoly. But while this conclusion is correct for the Scottish system as it was then constituted, it does not necessarily follow for a system with no restrictions on the issue of limited liability shares, or under alternative cost structures.

Imagine a continuum on which we measure the share of the note issue accounted for by the average bank of a particular class. At the low end would be the British country banks held in check by the six-partner rule. The average bank of this class must have issued only a tiny portion of the total note issue. Move then to the American style of free banking with limited liability. Banks under this system were relatively small and bank notes could only be redeemed at the head office of the bank, even if it was located in the country. Such a restriction (or, possibly, cost condition) seemed to have made the American free banks essentially unit banks.

When we turn to the Scottish system, the picture changes somewhat. In 1825 the three public (limited liability) banks produced about a third of the note issue and held about 40 percent of all deposits (Checkland 1975a, p. 424). These banks, moreover, could not acquire additional capital without government approval. It is unclear whether these banks could have increased their shares of the total note circulation if they had been permitted to freely add more capital, or whether aggressive newcomers with unlimited liability and unlimited

[7]The automatic incorporation of limited liability corporations was, as Sylla (1985) has shown, a major innovation in company law.

access to the capital market would have been able to grab large shares. The issue of how many banks would survive a pure laissez-faire regime was simply not tested during the free banking era in either country.

It would, of course, be treacherous to make any generalizations from the free banking era to modern times. Developments in accounting, data processing, advertising, and the like might well mean that there are now potentially large economies of scale in the issue of a bank currency that did not then exist. Perhaps it is just as well that we can conclude that free banking did not appear to require unlimited liability. It is hard to imagine a proposal for free banking with unlimited liability being taken seriously in a world of Citibanks. There are, however, intermediate steps between limited liability as we normally think of it and unlimited liability. Shareholders, for example, can be made liable up to the par value of their stock, a requirement originally incorporated in the National Banking Act.

A Lender of Last Resort

The most familiar mechanism for solving the problem of convertibility crises is a central bank pledged to being a lender of last resort. Walter Bagehot (1924 [1873], pp. 66–67), the prophet of central banking, argued that even under a gold standard a system of competitive banks in which each held its own reserve would be better in principle—presumably more stable in crises—than one in which a single central bank held the reserve. Bagehot's case for requiring the Bank of England to serve as a lender of last resort rested on what he believed to be the practical impossibility of reversing the dominant role the Bank of England had established. Do the experiences in Scotland and the United States support this contention?

There is one sense in which a free banking system, even one subject to the requirement of immediate convertibility, would likely be more stable than existing systems. Since bank notes would be low-powered money, any attempt to exchange notes for deposits would have a relatively small effect on the money stock—depending on the difference in the marginal reserve ratios behind notes and deposits. This point has been made, for example, by Friedman (1960, p. 69).

But in a panic it might be the desire for specie rather than notes that increases. And if the use of specie had been curtailed by the use of notes, then the panic might have an even larger effect on the money stock than if specie were more widely used. This was one of the arguments that Smith cited in favor of a limitation on the issuance

of small notes. According to Smith (1776, pp. 341–42), a country relying on paper money would be harmed if the nation's banking center was taken over by an enemy force, which then took possession of the specie underlying the stock of money. But in an economy in which small notes had been prohibited, and hence much specie continued to circulate outside the banking center, normal business could continue.

Although Smith's example sounds artificial to modern ears, it was not so farfetched in his day. Something very like this happened during the "Forty-Five" (Checkland 1975a, pp. 71–74). In September 1745, as the Jacobite army approached Edinburgh, the two banks operating in the city suspended convertibility. After the city was taken, specie was demanded and received from the Royal Bank. No long-run problems resulted because the army marched on and the rebellion was broken. While Smith's example is unlikely in modern circumstances, his theoretical point is valid. The issuing of hand-to-hand currency by banks does not eliminate the possibility of a financial panic in a system in which specie is the ultimate form of high-powered money. The case for a lender of last resort—or some other mechanism with a similar function—to mitigate the effects of a panic would remain intact.

What can the free banking experiences tell us about the need for such an institution? The American free banking systems were clearly not immune to the great financial crises of the 19th century. The crisis of 1857 hit the strong New York free banking system, as well as others, and the New York free banks were forced to suspend convertibility. King (1983, pp. 151–54) notes that seven free banks and three chartered banks failed. Being on their own, the banks took collective actions to mitigate the crisis, and the banking phase of the crisis which began in the fall of 1857 was over by the summer of 1858. Even this degree of distress might have been less in the absence of certain regulations. The requirement of immediate convertibility itself, as argued above, prevented the banks from making marginal adjustments in their payment policies in the face of extraordinary demands. And, as Eugene White (1983, pp. 218–20) has argued in another context, the absence of branch banking may have been an important factor enhancing the fragility of the banking system.

We cannot be sure, moreover, that a central bank would have been able to reduce or eliminate the panic. The role of a lender of last resort under a gold standard is difficult to manage, since the supply of high-powered money available to the central bank is limited, and the best way to use those resources may be hard to see at the time. The period from 1929 to 1933 always stands as testimony against

simple notions about the effectiveness of central banks. But the historical experience does show the possibility of financial panic within a free banking system and leaves open a possible role for a lender of last resort. There is, it has been claimed, a public good aspect to the services provided by a lender of last resort, since during a panic the reputation of all banks is enhanced when one receives a loan that prevents it from closing its doors. Moreover, it may be that the cooperation among banks that naturally emerges during panics does not provide an optimal supply of these services.

The comparison between Scotland and England lends credence to the view that a free banking system could navigate financial crises better than a more restricted system. But that does not mean that the lender of last resort could be dispensed with altogether. The Scottish banks held their secondary reserves in London and relied on the London money market to liquify these reserves. The Scottish banks thus benefited to some extent from the support given by the Bank of England to the London money market. In some cases, moreover, the support was more direct. In late 1830, for example, when the money market was frightened at the prospect of a European war, the Bank of Scotland and the Royal Bank negotiated large credits with the Bank of England (Checkland 1975a, pp. 409–10).

It could also be argued that at times the large limited-liability Scottish banks functioned as lenders of last resort. Checkland's account of Scottish banking provides many stories that could be read in this way. In the late 1780s the Royal Bank claimed to have averted a general disaster by supporting a private bank, Forbes and Company, that had gotten into trouble with loans to distillers, although the Bank of Scotland claimed that the Royal Bank did only what was in its self-interest (Checkland 1975a, pp. 217–18). In the early 1800s, according to Checkland (1975a, p. 175), the Bank of Scotland made runs on several banks that it felt had been excessive in their note issue. In 1834 Glasgow's Western Bank verged on collapse, and the Edinburgh banks intervened. In exchange for a loan, Western agreed to follow the Edinburgh pattern of holding a reserve of government securities against deposit liabilities (Checkland 1975a, p. 329). Would the Edinburgh banks have been in a position to intervene had they not enjoyed such a powerful position within the banking system, that is, if government policies had not created a situation that encouraged quasi-central banking activities?

In all these cases and others, it is difficult to distinguish between central banking actions and those undertaken for ordinary commercial purposes. Large banks might well make loans to small ones that are in trouble simply to make a profit. My own conclusion is that the

free banking experiences do not provide adequate counterexamples to the traditional wisdom, which holds that a central bank (or some similar mechanism) is required to maintain the stability of the banking system in crises, at least when legal restrictions have imposed a system of immediate convertibility.

Free Banking and Libertarianism

Among economists who accept the idea of the free market as the guiding principle of economic organization, there are two strongly divergent traditions with respect to banking. One is the Chicago tradition of Henry Simons, Lloyd Mints, and Milton Friedman, which emphasizes the need to place restrictions on banking in the interest of maintaining a stable overall stock of money. The other, which now may be identified as the Hayekian tradition, argues that such restrictions are counterproductive.

Originally, the Chicago tradition, as set out for example in Simons's (1934) essay, "A Positive Program for Laissez-Faire," called for both strict separation between the production of money and other financial assets and a system of 100 percent reserves for monetary assets.[8] But in what I take to be his latest views, Friedman (1985) has moved part way in the Hayek direction and advocated a system in which the stock of high-powered money (produced by the Federal Reserve) would be frozen, but in which restrictions on private banking including reserve requirements and restrictions on the issue of hand-to-hand currency would be gradually eliminated.

The free banking experiences in Scotland and the United States do not speak directly to Hayek's more radical proposals for denationalizing money. In both countries the requirement that notes be immediately convertible into specie, or for part of the Scottish period into notes of the Bank of England, provided a potential anchor for the system. In Scotland, moreover, the oversight of the Bank of England

[8]Simons's call for governmental controls on money, as well as a variety of other sectors of the economy, was undoubtedly a response to the Great Depression and, as Friedman (1967) has stressed, to a misunderstanding of the role of the Federal Reserve in that crisis. But I believe that another influence on Simons's thought was midwestern Populism. For example, compare Simons's ([1934] 1948, p. 57) five proposals for a sound liberal program with the "Ocala Demands" (Hicks 1931, pp. 430–31). Four of Simons's five points—nationalization of natural monopolies, nationalization of the production of money, and modification of the tax and tariff systems—closely mirrored Populist demands. Only Simons's call for a limitation on advertising lacks an analogue in the Populist demands, although such a demand would have been congenial to their way of thinking. If this conjecture be correct, it means that the long-run influence of Populism on Libertarian thought, through the medium of the Chicago school, may have been greater than one might have thought.

and the public banks of Scotland provided, perhaps, something of a lender of last resort function. There were, as I noted above, two brief episodes that could be cited as evidence of the danger of an inconvertible currency. But the banking troubles in Scotland in the early 1760s, the episode that convinced Smith that banks could not be completely free of regulation, may have had very different origins from those Smith imagined. The American experiment in Michigan in the 1830s, as unsatisfactory as it was, does seem to confirm Hayek's conjecture that the free flow of information would impose effective controls. Nevertheless, it is clear that historians must look elsewhere for examples of the sort of system that Hayek envisions.

The American system of free banking came closest, if we make certain reinterpretations, to what Simons had in mind. If money is redefined as currency—a reasonable definition for Americans in the 1840s and 1850s—and if the term reserves is widened to include government bonds, the American system then can be thought of as one attempting to specify something like 100 percent reserves against money, while leaving the investment of other funds largely unregulated. Recent research has, as I have shown above, provided many examples of such a system working well. The linkage between the currency and the credit of individual states, however, was sometimes the source of banking difficulties. But these problems, of course, were produced by differences between the 100 percent reserve scheme that Simons had in mind and the redemption arrangements under the American free banking laws.

The Scottish system of free banking came closest to what Friedman has advocated recently. In the Scottish system banks were required to keep their notes convertible into high-powered money, but beyond that were relatively free. Although in Friedman's latest formulation notes are convertible into a fixed stock of high-powered money provided by the government, the analogy is close.

The free banking experiences in Scotland and the United States do not provide scientific tests of modern proposals under modern conditions. But they do suggest that the free banking components of modern libertarian proposals have sound historical precedents. Most of the legal restrictions on the two systems either were unnecessary or were at most second-best solutions to problems created by other regulations.

To be sure, the Scottish system operated under the large, if not entirely waterproof, umbrella provided by the Bank of England and the Scottish chartered banks. On the American side there was no central bank, but there is also no evidence that even the best free banking systems were immune to convertibility crises. The current

evidence on free banking does not suggest, in other words, that we can jettison the lender of last resort function of central banking, or substitute measures, for dealing with or preventing panics.

Perhaps the best way to summarize is to suggest, somewhat immodestly, a revision of the quotation from Smith that heads this article, a revision that would make the statement consistent with the modern banking literature. It would go something like this.

> If it is required of bankers that any circulating bank notes, or notes payable to the bearer issued by them, are subjected to the obligation of an immediate and unconditional payment of such bank notes as soon as presented in gold or other legal tender; and if arrangements have been made through the state, or other forms of collective action, for supplying additional legal tender in an emergency, their trade may, with safety to the public, be rendered in all other respects perfectly free.

But this is only an interim formulation. The more we know about free banking in Scotland and the United States, the less important various institutional constraints on banking appear to have been. Who can say that a decade hence the thrust of the literature on free banking may not lead us to condense Smith to the simple statement that "their trade may, with safety to the public, be rendered perfectly free."

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THE FEASIBILITY OF FREE BANKING INSTITUTIONS

Richard H. Timberlake, Jr.

The underlying question addressed by Hugh Rockoff's (1986) useful critique of free banking institutions is: How much institutional freedom in money production by banks and other private producers is compatible with operational practices that make banking no riskier than other enterprise in a free market environment? Rockoff's discussion limits itself properly to monetary-economic institutions and disregards the characteristics political institutions would have to assume in order to give free production of money a chance. This latter issue can be disposed of immediately by noting that political norms would have to be far different from what they are today for the economics of free banking to become a reality. Whether politically feasible or not, the question of private money production merits examination because it would require the allocation of scarce resources toward an end that might or might not enhance economic welfare appreciably. The very fact that the federal and state governments jealously guard their monopolistic powers to control and create money argues that monetary capital does in fact yield a lucrative return.

Rockoff first cites Adam Smith's dilemma over bank issues of small notes. Smith was not alone in expressing this concern. It appeared throughout the 19th century in both economic writings and legislative enactments. It arose from the casually observed correlation between paper money inflation (and the resulting suspension of specie payments) and bank issues of small denominational notes. In addition, many private business firms issued token currencies, scrip, and other money substitutes. The apparent correlation implied an immediate causation in both the popular and professional mind: small notes drove specie out of the monetary system.

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The fact of the matter was that virtually all sustained suspensions of specie convertibility were provoked by government issues of paper money. These issues were mostly in large denominations and came to be held by banks as reserves. The banks' customers, however, could not easily use the higher denominations, which is why the banks held them. The banks then issued lower denominational notes and fractional currency. At the same time, the governmentally inspired inflation often raised the commodity values of fractional coins above their monetary values, and the coins disappeared from circulation—that is, were melted down for nonmonetary uses or were exported as balancers of payments.[1] Small notes in any case could not at one and the same time be demanded by the public, issued by the banks, and turned in for redemption in specie. The whole problem was a non-problem because the cause of the inflations—printing of paper money by governments—was not understood by journalists and, therefore, not expressed accurately through the news media. (This problem, too, endures.) If private production of money could occur, monetary denominations would have no more reason to be restricted than would shoe sizes or the color of automobiles. They should be made available in any pattern that money holders want in order to minimize transactions costs and maximize the total utility of the payments system.

Rockoff's discussion of wildcat banking, and the exaggerated romances associated with it, emphasizes an economic principle that is intuitively understood for all other markets but disappears when the money market[2] is at issue: no supplier can supply anything, including money, unless demanders are willing to buy the item on some terms. This axiom implies that demanders can be trusted not to enter into a contract or an exchange if their interests are not properly served. Indeed, if money users are as helplessly naive about the values of alternative moneys as monetary authoritarians suggest, commodity moneys never would have supplanted barter in the first place.

Even so, the emergence of fractional reserve banking in a free environment raised the technical question of how holders of bank-issued money could be protected during a fractional reserve bank credit contraction, for whatever reason inspired. To put it shortly, how could a private free banking system possibly develop its own

[1]Timberlake (1974) treats this episode at length.

[2]I am using the concept of the money market here in Leland Yeager's sense of all markets in which money exchanges for goods, not in the flawed contemporary sense of the market for short-term securities.

lender of last resort institution? Offhand, the antimarket interventionists would seem to have the last word on this question. Surely a central bank under private auspices is an impossible contradiction.

Happily, this supposition is empirically invalid and therefore theoretically flawed. The clearinghouse associations that developed during the last half of the 19th century formed just such a defensive arrangement. They originated as routine economizers for clearing bank debits and credits—a means for making the payments system more efficient. When bank panics threatened, the clearinghouses extended their operations and became lenders of last resort for sound banks that happened to be temporarily illiquid. Unsound banks destined for bankruptcy still had to fail. The fire, however, did not have to become a conflagration. The clearinghouse method of creating emergency bank reserves stopped the hemorrhaging in the banking system and thereby confined bank failures only to those banks that had an inordinate amount of nonperforming loans outstanding. Individual banks might fail, but the integrity of the banks' reserve base was preserved.[3]

The clearinghouse episode not only demonstrated the efficiency of private markets in building defenses against what seemed to be impossible odds, it also showed again that the suppliers of money had just as much interest in protecting the value of the product from deterioration and failure as did the demanders. Holders of money did not want the real value of their balances to falter, and neither did the banker-suppliers for such failure would have meant the end of their existence as cost-recovering enterprises.

The end of the clearinghouse system was signaled by the passage of the Federal Reserve Act. The Fed's powers, however, proceeded in reverse fashion from that of clearinghouses. The Fed was first vested with the lender-of-last-resort function, thereby legalizing the issue of emergency currency that had been regarded as so objectionable under the clearinghouse system. Only then was the Fed charged with the routine duty of clearing balances among member banks.

The major difference between the two institutions is that the clearinghouse associations functioned as economic organizations subject to market constraints and incentives. The Fed, by way of contrast, has become more and more of a political institution subject only to the amorphous and ineffectual constraints in the political marketplace. What body of voters or economists, for example, has ever been instrumental in appointing someone to the Board of Governors of the

[3]See Timberlake (1984) for a fuller discussion of the emergence of clearinghouse associations.

Fed; and what member of the Federal Open Market Committee (FOMC) has ever reimbursed moneyholders for the depreciation of their money balances through ill-considered central bank policies?

Rockoff raises an important issue when he observes that the free banking experience in the United States included many unfree restrictions: immediate convertibility of bank obligations at the demand of the holder, unlimited liability of stockholders, prohibition of currency issue (in some cases), and limitations on the number of stockholders. In addition, both federal and state laws today often restrict branching and operations across state lines, and shackle bank competition and enterprise with entry and exit barriers.

Another restriction incompatible with a free banking environment is governmental imposition of legal reserve requirements. Indeed, such a law has effects exactly counter to what is allegedly intended. Reserve requirements were put in force originally to protect the depositor by insuring that the bank would be able to convert its own demand obligations into whatever was legal tender. However, the reserve requirement laws largely immobilized the reserves they were designed to protect. Only by subjecting themselves to stiff penalties could the constrained banks use any part of their impounded legal reserves to meet depositors' demands. Furthermore, if they did draw on required reserves, they were open to the suggestion that they might be on the verge of failure, the suspicion of which would increase the demand for conversions substantially. Paradoxical as it might seem, banks have more reserves available for emergencies if they are left to their own devices. They may keep fewer reserves than they would under reserve requirement laws, but *all* the reserves are then available to satisfy liquidity demands.

The history of monetary institutions reveals that every special intervention by government to regulate the monetary system—that is, to compromise market functions—has resulted in institutional changes that have both restricted freedom of enterprise in the production of money and reduced efficiency. The government, through the agency of its central bank, now realizes most of the seigniorage profits that accrue to producers of money. As with all government enterprise, these revenues are not an incentive to make the system work better but rather go into general revenues where they are expended for political ends.

To free this industry and let enterprise do its job, the clearing operations of banks should be privatized by returning control of the Federal Reserve banks to their owners, which now means all depository institutions who hold stock in the Fed banks. These institutions should then provide for their own reserve necessities and for their

own collective defenses as they did during the clearinghouse era. The monetary base should be frozen at current levels, as Milton Friedman (1984) has recently proposed, in order to eliminate the manifold uncertainties of Fed policy (see Timberlake 1981; Salerno 1982). The frozen base would be the "big constant" that every monetary system seems to need. From this point on any institution that wished to try its hand at producing marketable money should be allowed to do so. The general laws of contract and the prohibitions against force and fraud are the only protections that are required from government. It is a vain pretense at this point to try and foresee all the innovations in the payments system that might follow. As in all market processes, the interactive behavior between private households and business firms would provide the system with the most economical moneys.

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