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George A. Selgin

G. A. Selgin is assistant professor of economics at George Mason University.

Dissatisfaction with the Present System

There is today much frustration, not to say cynicism, regarding the operation of our monetary system. Theorists from all quarters agree that, in recent years especially, the Federal Reserve has seriously mismanaged the money supply. Some believe that the authorities have been inept; others think they are dishonest. And yet a third group regards the institution itself as incapable even in principle of fulfilling its self-assigned function. Probably the truth is a combination of these three views.

Whatever its foundation, the prevailing mood has bred numerous proposals for radical reform. All have in common the aim of reducing the influence of Federal Reserve officials over money, prices, and interest rates. Discussion centers less and less on such concepts as "scientific control" and "fine tuning." It is well enough, the proposals imply, if the Fed can merely be prevented from engaging in any more mischief.

Broadly, the proposals are of two kinds: those that would enforce a strict, constitutionally mandated rule governing the growth of Federal Reserve dollars ("base" or "high-powered" money),[1] and those that would abolish the present monetary arrangement entirely, replacing it with one based on competitively supplied monies.[2]

Despite the extent of dissatisfaction with the present system, such proposals have not found favor among politicians or even among most academics. Many of the latter fear that a rigid base-money rule, while perhaps providing a generally stable monetary "framework," would not allow the money supply sufficient flexibility and responsiveness to changing circumstances. A complete abandonment of the present monetary standard in favor of a competitive supply of money is seen as an altogether too drastic measure that would lead, especially during the transition period, to more rather than less overall monetary instability and chaos. Even authors sympathetic to both goals--creating a stable monetary framework and eliminating government intervention--regard the two as incompatible in practice.[3]

There is substance to these criticisms. And yet, although each of the radical reforms mentioned may be unsatisfactory if adopted independently, they may be combined to form a third alternative that would be neither defective nor disruptive--one that could achieve monetary stability while simultaneously eliminating all government interference.

Specifically, this third alternative calls for freezing the monetary base, thus removing the Federal Reserve from the business of money production, after restoring the right of commercial banks to issue their own notes, redeemable on demand in Federal Reserve dollars. Thus, commercial banks would be able to issue fractional-reserve demand liabilities not solely by offering checkable deposits, but also by offering alternative paper instruments suitable for meeting the public's currency needs. This arrangement would allow Federal Reserve dollars to be used exclusively as bank reserves for settling interbank clearings, and not (except in insignificant amounts) as pocket and till money by the public.

Although the proposal outlined here may seem revolutionary, it is not, resembling in some respects the pre-Federal Reserve arrangement that functioned from 1863 to 1913. However, at least part of the time, the pre-Federal Reserve system (the National Banking System) operated on a gold standard,[4] whereas the present proposal assumes a continuation of the current paper-dollar standard. More significantly, the National Banking System suffered from serious regulatory defects that the present proposal avoids. To place this proposal in perspective, a review of the history of the National Banking System is in order, revealing how the defects of that system might easily have been cured through deregulation instead of the establishment of a central bank.

Banking before the Civil War

In the decades just before the Civil War, there was no central bank: the charter of the Second Bank of the United States, which in some ways had functioned as a central bank, had expired in 1837. Nevertheless, banking was far from being an unregulated industry. Each state and territory had its own regulations. For instance, the territory of Wisconsin, formed in 1836, outlawed note-issuing banks altogether, as did Iowa, Oregon, Arkansas, and Texas upon being admitted to statehood. Elsewhere the number of banks was limited by legislative charter. In addition, there were laws prohibiting branching, prescribing reserve requirements, and regulating the type of investments and loans banks could (or had to) make.

The charter, or "spoils," system of bank establishment was standard procedure in all states prior to 1837. The incorporation of any new bank required a special legislative act. This system was corrupt and anticompetitive, and it permitted state governments to extract financial favors from privileged banks. By the late 1830s, however, mounting public dissatisfaction with the spoils system had given rise to "free banking" laws, first enacted in Michigan and New York and later adopted in many other states. Free-banking statutes brought banking into the domain of general incorporation laws, so that special charters no longer had to be secured through the legislature in order for new banks to open.

This movement was an important step toward free trade in banking, but it stopped well short of the policy of laissez faire. State governments were jealous of the financial favors they had garnered from their banking systems. In order to retain these favors while allowing freedom of entry into the banking business, they supported the inclusion of "bond deposit" provisions in the laws regulating bank-note issues.

During this period, banks operated on a gold standard, and since currency issue was not monopolized, many banks issued their own redeemable notes, just as banks today provide their customers with checking-account balances. In the first half of the nineteenth century, notes outnumbered demand deposits and were the most important form of bank liabilities. The bond-deposit regulations required a bank to secure its note issues with government bonds, including bonds of the state in which it was incorporated. Typically, a bank desiring to issue $90 in notes would first have to purchase $100 (face value) of specified state bonds, which it would then deposit with the state comptroller in exchange for certified currency. In this system, bond collateral was held to be more liquid and secure than other interest-earning assets. Actually, however, bond security was in many cases depreciated or unsalable, and failed banks attempting to realize upon it to pay note and demand-deposit holders were sometimes able to make good only a fraction of their debt.

Other effects of the bond-deposit laws were more predictable: As the state governments had hoped, bank funds were successfully channeled into state coffers. But in states where "eligible" bonds were selected indiscriminately, some of the worst instances of "wildcat" banking occurred. Furthermore, the supply of currency fluctuated not according to the demands of the public, but according to the supply of eligible bonds and the cost to the banks of acquiring such bonds on the open market.

It is this last consideration that will eventually concern us. Its implications at the time, however, were not serious, since financial health varied from state to state and bond-deposit legislation was neither universal nor uniform. Under these conditions no general shortage of currency or bank credit was likely to arise in response to events in the bond markets. In New England, where there were no free-banking laws with bonddeposit requirements, generous bank chartering resulted in healthy competition, an atmosphere that propelled the Suffolk Bank of Boston to overcome

branch-banking restrictions by establishing an entirely free-market, centralized clearing system.[5] The result was the highest-quality bank money in the nation. In other regions, the quality of bank issues varied from fair to miserable. The lowest ranked were the wildcat banks of the West and Midwest, encouraged by anti-branching laws and lax bond-deposit provisions that allowed banks to secure currency using "junk" bonds purchased at heavy discounts.[6]

By 1861, the evidence suggests, unregulated competition in banking, like that in New England, had done more to secure sound money than all the regulations and restrictions imposed throughout the rest of the country. This contrast might even have been observed by some officials in Washington at the time. But the Civil War had just begun, and Washington had priorities other than sound money when it set about to redesign the nation's banking system.

The National Banking System

The Civil War brought four major pieces of monetary legislation: the legal-tender laws, in 1862; the National Banking Act, in 1863; an act outlawing private coinage, in 1864; and an act imposing a prohibitive 10 percent tax on state-bank note issues, in 1865. The combined effect of the last three acts was to place the entire currency supply under federal jurisdiction. Together with the legal-tender laws, these acts comprised a program for securing means other than direct taxation to pay for the war against the South.

The legal-tender laws contributed to this program by authorizing the Treasury to issue "greenbacks," putting the nation on a fiat standard. The National Banking Act allowed the establishment of federally chartered note-issuing banks, the notes of which had to be secured by deposits of federal securities. This bond-deposit requirement, borrowed from the misnamed ante-bellum "free banking' laws, was designed to create a forced market for federal debt: for every $90 of notes they issued, national banks had to purchase $100 (face value) in government bonds, to be deposited for safekeeping with the federal comptroller of the currency. In addition, the 10 percent tax on state-bank note issues assured that state banks would no longer deprive the federal government of potential revenue from bond sales to their nationally chartered rivals.

Thus, by 1866 the currency supply consisted entirely of greenbacks, the availability of which was fixed by statute, and of bond-secured national-bank notes, the availability of which depended upon the cost to the national banks of purchasing eligible government bonds on the open market.

Obviously, a fixed greenback supply could not adjust to changes in the public's demand for currency, as, for example, when the public wished to convert bank-deposit holdings into pocket and till money. Furthermore, reliance upon a fixed greenback supply for meeting increased currency demands would have serious consequences because greenbacks, unlike competitively issued bank notes, were a form of base money. When held by banks, they formed a part of bank reserves, useful in the settlement of clearing balances and therefore useful as a basis for loan expansion. Thus, their ebb and flow--in and out of circulation--would mean constant, unwarranted fluctuations in system reserves and, hence, in the total supply of bank money.

Had their issue been unrestricted, national-bank notes might have provided an adequate alternative to greenbacks as a means of fulfilling the public's demand for currency. However, under the bond-deposit requirements, banks became unwilling to secure notes in response to public demand. Rather, the supply of national-bank notes tended to follow the supply of bond collateral: the supply of bond collateral determined both the absolute limits of note issue and its profitability. The absurdity of this arrangement may be seen in the fact that retirement of the national debt would have resulted in complete elimination of national bank currency.

Even when the supply of bonds was adequate to secure needed currency, there was no guarantee that banks would find the investment worthwhile. National-bank note issue could be prohibitively costly, given a sufficiently low rate of interest on government bonds and a significant premium (positive difference between market price and face value) on bonds available on the open market. Under certain circumstances, an outflow of greenbacks or specie, and the resultant contraction of reserves and credit, could appear less costly to banks than the transactions involved in securing additional notes. High demand for currency at such a time could result only in disappointment and crisis.

The unfavorable financial environment was aggravated further by the peculiar structure of the reserve system of the

national banks. Intra- and interstate branching was prohibited. Consequently, in order to take advantage of commercial and overseas investment opportunities, "country" banks held their reserves of base money with regional reserve-city banks, many of which in turn held reserve accounts with New York City correspondents. If demand for currency by country-bank customers could not be fulfilled profitably by new issues of national-bank notes, a chain reaction would be set off that would ultimately lead to significant contraction in the reserves of the New York correspondent banks. The New York banks would have to ship reserve media to their reserve-city clients in the interior and, ultimately, to to rural banks for payments to small businessmen, especially farmers.

Free-Market Responses to the Money Panics

Prior to 1871, the expansion of the national debt assured an adequate supply of national-bank currency. But that year marked the beginning of a long period of debt contraction. The Treasury was running a surplus, which it used to buy up and retire government bonds. As the supply of federal securities declined, their market values increased, and the national banks found it increasingly difficult and costly to acquire the collateral needed for new note issues. These circumstances precluded secular growth of the currency supply and prevented cyclical increases in demand from being met, except by payment of high-powered reserve media that had to come largely from New York.

Here, then, was the setting for the great "money panics" of 1873, 1884, 1893, and 1907. Each of these severe crises coincided with the height of the harvest season, in October, when it was usual for large amounts of currency to be withdrawn from interior banks to finance the movement of crops. They were the only financial disturbances to interrupt what was otherwise a period of unmatched economic growth and prosperity--and they would never have occurred except for unwise government regulations that restricted banks' powers of note issue.

Hampered by regulations, the banks at first responded to heightened currency demands simply by reducing their extensions of credit. They took this step partly in response to lost reserves and partly because the demand for currency would fall along with a decrease in the banks' total liabilities. Such reductions resulted in great hardship for would-be borrowers, who suddenly found even routine requests denied. In more serious cases, banks resorted to the drastic policy of "restriction of payments": deposit holders were no longer allowed to convert their balances into currency. This policy had the unfortunate consequence of encouraging the public to hoard outstanding currency even when its outstanding supply might have exceeded trade requirements. Over time, deposit holders learned to anticipate currency shortages, so that the slightest indications of stringency were enough to set off large-scale runs and hoarding panics.

The marketplace showed great ingenuity in dealing with the money panics. In northern states, Canadian bank notes, not burdened by bond-deposit requirements, appeared in circulation. Private clearinghouse associations issued temporary "clearinghouse loan certificates" and "clearinghouse certificates." The former were used as supplements for gold in interbank settlements and as emergency reserves so that suspensions could be avoided; the latter were issued in small denominations to satisfy the currency needs of the public. Although these certificates violated the provisions of the National Banking Act and hence were illegal, they were so instrumental in overcoming the crises that regulators turned a blind eye toward them.[7]

In many communities, checks of well-known individuals and firms, including payroll checks, were issued in small, round denominations and passed from hand to hand until they were black with endorsements. Banks issued cashiers' checks and negotiable certificates of deposit, also in small, round denominations. These were further means of evading the bond-deposit laws. In the last of the great pre-Federal Reserve "currency panics" in l907, no less than $334 million of such emergency currency, and probably a great deal more, was issued by banks, bank clearinghouses, and businesses all over the country.[8] As a result, the extent of bankruptcies and other economic destruction that occurred during the panics was greatly reduced. In contrast, government regulations, besides causing the crises in the first place, only got in the way of free-market emergency measures.

Early Proposals for Reform

Although often sincere, many early reformers of the monetary system simply failed to recognize restrictions on note issue as the fundamental cause of the banking crises. Observing the scarcity of credit and the numerous bank failures, they concluded that banks had been negligent in holding reserves. Thus, bank-note inelasticity was misinterpreted as

inelasticity in the supply of reserves. The result was widespread agitation for augmentation of the reserve base. The Silverites called for the monetization of silver, and the Greenback party emerged, favoring new issues of U.S. notes. But most popular, particularly with economists, were proposals calling for a special central reserve agency that would provide emergency reserves during periods of crisis. Such proposals were the basis for the Federal Reserve Act.

The Federal Reserve System was, in fact, a most unsatisfactory solution to the problems of the national banks. Through its administration of what soon became a monopolized note supply, the Fed indeed had unlimited capacity to satisfy the public's currency demands. But it could do much more than that: Fed issues not needed in circulation could augment the reserves of commercial banks, sponsoring a multiplication of commercial-bank liabilities. This vast capacity for inflation was absent in the plural note-issue system set up by the National Banking Act, under which no single bank could uniformly increase the reserves of all other banks.

The responsible solution to the problems that plagued the national banks was not the monopolization of the currency supply--which opened the way to vast inflation, especially after the abandonment of the gold standard--but its deregulation. The most severe problem, that of currency shortage, would have disappeared with the repeal of the bond-deposit laws. Repeal would have placed note issue on an equal footing with the granting (and acceptance) of deposit accounts, and banks would have been able to issue notes up to the full extent of deposit-customer requirements. Bank reserves would thereby have been insulated from changes in currency demand. Of course, this reform would still have left much scope for further deregulation, of which a repeal of the prohibition on inter- and intrastate branching would have been especially beneficial. But even by itself, revocation of the bond-deposit laws would have been superior to the Federal Reserve "solution."

Competitive Note Issue: The Key Reform for Today

We have come a long way since 1913. The last of the national bank notes were retired from circulation in 1935, and the currency supply has remained monopolized ever since. In 1933 the first steps were taken to suspend gold convertibility and to make Federal Reserve dollars a fiat standard. This process was completed in 1971. The Fed has long ceased to be regarded--or to act--as an agency designed to intervene only during "emergencies." It now assumes responsibilities that include nothing less than comprehensive control of all money and credit markets--control that it was never able to responsibly exercise even on a smaller scale.[9]

Yet the fundamental options today are no different from those in 1913. True, base money is now government supplied, and the momentum behind the present fiat-dollar standard is a compelling argument for its retention. But that does not mean the Fed should retain its power to ***manipulate*** the supply of standard money. Nor, furthermore, is there anything about the present system that would make a return to competitive note issue undesirable.[10] Indeed, such a return--without the unwise regulations that condemned the National Banking System--is the key reform needed to make removal of the Federal Reserve possible without serious negative consequences.

To see why this reform is so important, consider the consequences of freezing the monetary base without first allowing commercial banks to participate in note issue, as in the latest monetary reform proposal of Milton Friedman. For Friedman, a monetary freeze is a desirable prelude to other reforms that would eventually include allowing banks to issue currency. In contrast to his earlier proposals permitting the monetary base to grow at some fixed, positive rate, Friedman now favors freezing the monetary base in order to "end the arbitrary power of the Federal Reserve System to determine the quantity of money."[11] Thus, Friedman's latest proposal is the ultimate expression of the anti-discretion position originally propounded by Henry Simons in 1936.[12]

Friedman predicts that a freeze in the monetary base without competitive note issue would still allow desired changes in the multiplier (the ratio of outstanding currency and demand deposits to base money) reflecting the demand of individuals for monetary assets. Deregulation in combination with "financial innovation" would, according to Friedman, guarantee adequate stability.[13]

But what means does Friedman's reform provide for satisfying changes in the public's demand for currency, that is, the demand for pocket and till money? How could this demand--which changes both cyclically and secularly [14]--be

satisfied during the interval between the freezing of the monetary base and private-bank issue of circulating paper? It could be satisfied only through changes in the apportionment of base money between banks (which hold it as reserves) and the public (which uses it in pockets and tills).

The preceding review of the events of the National Banking System era provides some clues as to the probable consequences of this arrangement: when the public's demand for currency increases, reserves will be withdrawn, and a contraction of credit must follow. Suppose the reserve ratio (the reciprocal of the money-multiplier) is 10 percent. Then a withdrawal of $1,000 in base money will necessitate a $9,000 contraction of credit additional to the $1,000 contraction involved in the original withdrawal transaction. The total contraction of liabilities would therefore be $10,000--a very significant change arising from a much smaller change in how the public prefers to hold its money. Ideally, the latter type of change ought to be accommodated without the former.

The result is no better when the public's demand for currency falls, assuming that the currency in circulation includes some base money. In that case, the redundant base money flows back to the banks, where it becomes the basis for inflationary credit expansion. In short, as long as the currency needs of the public are subject to change, a frozen monetary base cannot be consistent with nominal-income and price stability. To put it another way, Friedman's proposed reform would lead to a repetition of some of the same problems encountered in the old National Banking System. To correct this defect in Friedman's proposal, the schedule for reform must be reversed: commercial banks should be allowed to issue paper currency, especially notes redeemable in base dollars, before the monetary base is frozen. Then they could independently accommodate positive and negative changes in the public's demand for hand-to-hand money. Note issue by commercial banks would prevent fluctuations in currency demand from having an undesirable influence on bank reserves and lending power.[15]

A Practical Proposal for Reform

A reasonable starting point for implementing the reform outlined above would be to remove such archaic and obviously unnecessary regulations as statutory reserve requirements and restrictions on regional and nationwide branch banking. The majority of nations with developed banking industries have had no need for such regulations, evidence enough that their elimination in the United States would not have grave consequences. In fact, branch banking has significant advantages--both macroeconomic and microeconomic--over unit banking, and its absence is probably the major cause of the frequent collapse of Amerlcan banks. As for statutory reserve requirements, they serve no purpose other than to act as a kind of tax on bank credit. Furthermore, their existence restricts the ability of banks to accommodate changes in the public's willingness to hold bank liabilities. If the monetary base is frozen, this restrictive effect is absolute.

While these deregulations are in progress, Congress should proceed to restore to all commercial banks the right to issue redeemable demand notes unrestricted by any bond-deposit requirements. This reform would not in any way complicate the task facing the Federal Reserve Board. Indeed, its only effect would be to reduce somewhat, perhaps entirely, the Fed's need to take account of fluctuations in the public's currency needs when adjusting the money supply: the multiplier would become more stable and predictable to the extent that bank notes were employed to satisfy temporary changes in currency demand.[16] Over time, the banks would establish the reliability of their issues--which, incidentally, need not be considered any less trustworthy by the public than traveler's checks.

Obviously, in order for competitive note issue to achieve the desired result of entirely displacing base money from circulation, the public must feel comfortable with. or at least indifferent about, using bank notes instead of base money as currency. This might be a problem. It would be easier to switch from metallic base money, which is obviously a less convenient currency medium than bank notes redeemable in it. There is no similar advantage to using paper bank notes instead of equally convenient paper base dollars. Nevertheless, imaginative innovations could probably induce the public to prefer bank notes. These innovations would fall into two categories: those that would make base dollars less desirable as pocket and till money, and those that would enhance the desirability of bank notes.

As regards the first category, the existing base-money medium could be replaced by paper units of somewhat larger physical size, fitting less easily into existing wallets and tills; bank notes, conversely, could be made the size of present dollar bills. The appearance of base dollars could also be altered in other ways, for instance, by having them engraved

in red ink. In this form, they might seem even less familiar to currency users than the newly available bank notes. Finally, base dollars could be made available only in less convenient denominations. Two-dollar bills would be ideal, since they already have an established reputation for undesirability. Banks, of course, could be allowed to issue whatever note denominations they discovered to be most desired by their customers.[17]

Two possibilities come to mind for the second category. First, banks could stock their automatic teller machines exclusively with notes, and bank tellers could be instructed to give notes to depositors who desire currency, unless base dollars are specifically requested. Of course, such practices would be consistent with the maximization of bank profits, so that no special measures would be needed to encourage them. As a second possibility, banks might conduct weekly lottery drawings and offer prize money to those possessing notes with winning serial numbers.[18] In practice, the drawings would be no more objectionable than similar lotteries now held by several daily newspapers. They would make notes more appealing to the public, and they would constitute an indirect way of paying interest to note holders, just as interest is paid on some checkable deposits.

A combination of measures such as these would almost certainly lead to near-complete displacement of base dollars from circulation. Once this stage was reached--say, once 5 percent or less of bank deposits and currency in circulation consisted of base dollars [19]--a date could be chosen on which the supply of base money would be permanently frozen. When this date arrived, outstanding Federal Reserve deposit credits would be converted into paper dollars, and banks that held deposits with the Fed would receive their balances in cash. At this point as well the Federal Reserve System would cease its money-creation activities. Its clearing function could be privatized, as it had been before 1913, and the frozen stock of base dollars could be "warehoused" by private clearinghouse associations. Dollar "certificates" or clearinghouse account entries could be used to settle interbank clearings, saving the dollar supply from wear and tear. Only a small amount of base dollars would actually be held by individual banks for satisfying rare customer requests. In the case of a "run" on base dollars, a bank in distress could receive assistance from its more liquid branches or from other banks acting through the clearing agency. Bank liabilities may continue to be insured, although such insurance may well not be necessary under the circumstances of sound, conservative bank management that free banking would foster. Furthermore, insofar as liability insurance seemed desirable, there would be no reason why liability holders could not pay for it and, hence, no reason why it could not be privately supplied.[20]

Beyond this, nothing remains to be added to what Friedman and other advocates of a monetary freeze have already recommended. But it should be emphasized that during the time the reforms outlined here were taking effect there would be no reason for not eliminating all barriers to the employment of base monies other than paper dollars or of bank liabilities convertible into alternative base monies. Thus, fiat currencies issued by other governments or even from private sources could, if they were judged more advantageous, replace the present dollar standard. Also, the way would be opened for the restoration of some kind of commodity standard, such as a gold standard. This is not to say that a change of standard would be likely or even desirable. However, if many people desired it, it could occur. A well-functioning free-banking system can grow on the foundation of any base money that the public selects, and competition in the supply of base money is no less desirable than competition in the supply of bank liabilities, including bank notes redeemable in base money.

Stability and Freedom from Intervention

This proposal undoubtedly raises more questions than can be answered in a brief policy study, and the interested reader may wish to seek out answers to them in other works dealing with free banking.[21] The purpose here has been to suggest the essential role of free banking in reforming the present monetary system. The reform strategy outlined here is both practicable and desirable, achieving the two goals of stability and complete freedom from government intervention that have up to now been regarded as incompatible. The most important question that remains to be answered is whether policymakers will abandon their present "monetary frustration" and embrace free banking, or whether they will miss this opportunity--the way they missed it in 1913.

FOOTNOTES

[1] The most extreme of these proposals advocate freezing the monetary base. See, for example, Milton Friedman, "Monetary Policy Structures," in *Candid Conversations on Monetarv Policy* (Washington: House Republican Research Committee, 1984); idem, "Monetary Policy for the 1980s," in *To Promote Prosperity: U.S. Domestic Policy in the Mid-1980s,* ed. John H. Moore (Stanford: Hoover Institution Press, 1984); and Richard H. Timberlake, Jr., "Monetization Practices and the Political Structure of the Federal Reserve System," Cato Institute Policy Analysis no. 2 (Washington, August 12, 1981), pp. 10-12.

[2] See, for example, F. A. Hayek, *Choice in Currency: A Way to Stop Inflation* (London: Institute of Economic Affairs, 1976); idem, *Denationalization of Money--The Argument Refined,* 2d. ed. (London: Institute of Economic Affairs, 1978); and Lawrence H. White, "Competitive Money, Inside and Out," *Cato Journal* 3, no. 1 (Spring 1983): 281-99.

[3] This is the view of many monetarists.

[4] From 1863 to 1879 the United States was on a fiat ("greenback") standard. In 1879 greenbacks were made convertible into gold.

[5] On the Suffolk system see George Trivoli, *The Suffolk Bank: A Study of a Free-enterprise Clearing System* (London: Adam Smith Institute, 1979).

[6] For further details on the relation between bond-deposit laws and wildcat banking, see Bray Hammond, *Banks and Politics in America* (Princeton: Princeton University Press, 1957), p. 627.

[7] On clearinghouse emergency procedures, see Richard H. Timberlake, Jr., "The Central Banking Role of Clearinghouse Associations," *Journal of Money, Credit, and Banking* 16, no. 1 (February 1984): 1-15.

[8] A. Piatt Andrew, "Substitutes for Cash in the Panic of 1907," *Quarterly Journal of Economics* 22, no. 3 (August 1908): 477-516.

[9] The Depository Institutions Deregulation and Monetary Control Act of 1980 was aimed largely at securing more complete Fed control. See Jeffrey Rogers Hummel, "The Deregulation and Monetary Control Act of 1980," *Cato Policy Report* 2, no. 12 (December 1980).

[10] Competition in note issue need not necessarily represent an attempt to replace the national currency unit. Bank notes, even if competitively issued, could still be dollar-denominated claims. They would then supplement, rather than challenge, the existing dollar standard. But they could compete with base-dollars in fulfilling the actual requirements of circulation. (Compare Friedman, "Monetary Policy for the 1980s," p. 47.)

[11] Friedman, "Monetary Policy Structures," p. 34; see also idem, "Monetary Policy for the 1980s," pp. 49-52.

[12] See Henry C. Simons, "Rules versus Authorities in Monetary Policy," *Journal of Political Economy* 44 (1936): 1-30.

[13] Friedman, "Monetary Policy for the 1980s," p. 52.

[14] See Phillip Cagan, "The Demand for Currency Relative to Total Money Supply," National Bureau of Economic Research Occasional Paper no. 62 (1958).

[15] Friedman himself has recognized the difficulties created by fluctuations in currency demand as well as the possibility of resolving them by allowing banks to issue notes on a competitive, fractional-reserve basis. See Milton Friedman, "Commodity Reserve Currency," in *Essays in Positive Economics* (Chicago: University of Chicago Press, 1953), pp. 218-20; and idem, *A Program for Monetary Stability* (New York: Fordham University Press, 1959), pp. 67, 69. In these earlier works, Friedman appears much less sympathetic toward the idea of competitive note issue than he is today. But paradoxically, the earlier works do recognize the advantage of competitive note issue in preventing instability due to fluctuations in currency demand. By contrast, Friedman's most recent work does not address this

feature of free banking, even though it would appear to be especially advantageous if the monetary base were to be frozen.

[16] For the opposing viewpoint of the "new monetary economists," who argue that prohibiting bank-note issues actually ***stabilizes*** the demand for high-powered money, see Friedman, "Monetary Policy for the 1980s," p. 49. It is difficult to understand how a policy that necessitates the circulation of base money can make the demand for base money more stable than a policy that would permit the use of bank notes to satisfy cyclical changes in currency demand.

[17] If the frozen stock of base dollars were converted into Treasury notes, as Friedman recommends, some of these suggestions would be realized automatically.

[18] This idea was suggested to me by J. Huston McCulluch.

[19] The figure is now approximately 35 percent. See *U.S. Financial Data* (Federal Reserve Bank of St. Louis, March 28, 1985), pp.3-4.

[20] On the possibility and benefits of privately supplied liability insurance, see Eugenie Dudding Short and Gerald P. O'Driscoll, Jr., "Deregulation and Deposit Insurance," Federal Reserve Bank of Dallas *Economic Review* (September 1983): 11-22.

[21] In addition to the works cited in footnote 1, the reader may examine Vera Smith, *The Rationale of Central Banking* (London: P.S. King & Son, 1936); and Lawrence H. White, *Free Banking in Britain: Theory, Experience, and Debate, 1800-1845* (New York: Cambridge University Press, 1984). Both of these works contain much valuable historical as well as theoretical information.