LEGAL RESTRICTIONS, FINANCIAL WEAKENING, AND THE LENDER OF LAST RESORT

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> *It is not unlikely that the bolstering up of banking systems by their Governments is a factor which makes for instability.*
>
> —Vera Smith (1936, p. 5)

Introduction

A popular defense of central banks and fiat money claims that they are needed to protect the payments system against the peril of financial crises. A central bank can act as a "lender of last resort" to other banks, assuring depositors that they need never fear a general banking collapse; fiat money in turn guarantees that the lender of last resort itself will never go broke.[1]

A crucial assumption behind the lender of last resort argument is that fractional-reserve banking is inherently "fragile" and crisis prone—that central banking and fiat money are an unavoidable response to market failure. According to Minsky (1982, p. 17), "conditions conducive to financial crises emerge from the normal functioning of a capitalist economy." In a free market, says Minsky, such conditions will occasionally produce "wide and spreading bankruptcies" that could, however, be prevented by "an alert lender of last resort" (p. 13).[2]

Cato Journal, Vol. 9, No. 2 (Fall 1989). Copyright © Cato Institute. All rights reserved.

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[1]According to Barth and Keleher (1984, p. 16) "to function as a lender of last resort [a central bank] must have authority to create money, i.e., provide *unlimited* liquidity on demand" (emphasis added).

[2]Minsky even tries to rule potential criticisms of his "financial-instability hypothesis" out-of-court by declaring (1982, p. 16) that "No theory of the behavior of a capitalist economy has merit if it explains instability as the result either of exogenous policy mistakes or of institutional flaws that can be readily corrected."

In this paper I take issue with the lender of last resort argument by showing that its underlying assumption is false: Fractional-reserve banking systems are *not* inherently weak or unstable. They are weak and unstable because legal restrictions have made them that way. The collapse of a fully deregulated banking system would be highly improbable if not impossible. It follows that central banks and fiat money are at most "second best" solutions to problems peculiar to regulated banking.

The paper proceeds in two parts. The first concerns the role of more familiar legal restrictions in fostering financial fragility and crises. It focuses especially on banking problems in the United States. The second shows how restrictions on private *currency* issue in particular have historically been an especially significant cause of financial weakening; its focus is more on developments in Great Britain. Because central banking presupposes a monopoly in currency supply, the existence of central banks itself turns out to be a crucial cause of financial crises.

A "Financial Weakening" Hypothesis

Why should banks, unlike other profit-maximizing firms, evolve in a manner that exposes them lemming-like to periodic waves of bankruptcy? I believe the answer is that they do not evolve that way at all but have been weakened by legal restrictions ultimately aimed at generating revenue for the government or at propping up special interests within the banking industry. In the United States the adverse effects of particular restrictions are well understood. What is not appreciated is how their cumulative effects have led to the present reliance upon a lender of last resort.

Were an evil dictator to set out purposefully to weaken a fractional-reserve banking system and to increase its dependence upon a lender of last resort, he would (1) increase the risk exposure of individual banks to enhance their prospects of insolvency; (2) create an environment conducive to "spillover" or "contagion" effects, so that individual bank failures can lead to systemwide runs; and (3) obstruct private-market mechanisms for averting crises. Banking regulations in the United States and elsewhere have unintentionally done all three things. All that can be said in these regulations' favor is that some help to mitigate the unfortunate consequences of others.

Individual Bank Insolvency

Anti-Branching Laws. Legal restrictions subject individual banks to a higher risk of becoming insolvent by reducing their opportunities to avoid risk and by actually subsidizing bank risk taking. Of restric-

tions having the first effect, by far the most destructive have been laws against branch banking. Such laws account for the fact that the United States has more than 14,000 banks and more than 3,000 "thrift" institutions, most of which are small and localized. According to Mullineaux (1987, p. 77), even the largest U.S. banks "are not large in relation to the size and wealth of the population," and only one of them is among the world's top ten. The smallness and lack of diversification of so many U.S. depository institutions has made them chronically failure-prone: Unit banks in the farm belt have been over-exposed to farming losses, and Texas and Oklahoma banks have suffered from their involvement in oil-industry loans and in local real-estate development. In the Northwest, banks have relied excessively upon loans to the timber industry. Such over-exposure of loan portfolios reflects the fact that banks' lending opportunities are to a large extent bound by their location. Even larger money-center banks have been adversely affected by anti-branching statutes, which by restricting their domestic business opportunities

> have encouraged them to be outward-looking. Because of their size and their presence in the major money centers they were well placed to help in the recycling of the OPEC surpluses, especially as Latin America developed a voracious appetite for funds. Many of them consequently developed an exposure to Latin America that far exceeded their capital bases [Mullineaux 1987, p. 41].

As White observes (1986, pp. 895–96), restrictions against branch banking increase a bank's exposure to liability-related as well as asset-related risks. Branched banks typically rely upon a broad cushion of retail deposits gathered by local offices as their principal source of funds. Unexpected withdrawals at some branches can often be compensated for by a transfer of reserves from others. In contrast, unit banks, particular in large money centers, have relied heavily in recent years upon "liability management," attracting wholesale deposits as an alternative means for persons far removed from the money centers to take advantage of better investment opportunities there. The danger of this approach is that, in contrast to retail deposits, wholesale deposits are much more likely to be withdrawn in response to adverse rumors, not just because their size often makes them ineligible for insurance, but because their owners are less able to verify the truth of a rumor and are less bound by considerations of convenience than retail depositors are to remain loyal to any particular bank. The dramatic collapse of Continental Illinois was to a large extent due to its heavy reliance upon liability management—a by-product of Illinois' strict anti-branching laws—though Continental

would no doubt have become insolvent anyway as a result of its unwise and excessive energy loans.

No episode illustrates more dramatically the weakening effect of anti-branching laws than the Great Depression. Between 1931 and 1933 several thousand U.S. banks—mostly small unit banks—failed. In contrast Canada's branch-banking network did not suffer a single bank failure even though in other respects Canada was just as hard hit by the depression—it could hardly have escaped all of the adverse effects on Canadian business of a 33 percent fall in the U.S. money supply. (The Canadian money supply fell by about 13 percent.) Ironically the United States at the time *did* have a lender of last resort, whereas Canada did not.[3]

This comparison of U.S. and Canadian experience has by now been made so often that it is in danger of becoming a cliché. Yet the comparison bears repeating because it suggests that branch banking alone would go far in rendering the U.S. banking system immune to financial crises.[4] As branching laws are liberalized the U.S. banking system will be progressively strengthened, and its reliance upon a lender of last resort will be correspondingly reduced.

A defense of restrictions on branching is that they prevent the banking industry from becoming overly concentrated and uncompetitive. This view misconstrues both the likely effects of full interstate branching and the meaning of competition. In O'Driscoll's estimate (1988, p. 673) without branching restrictions the United States might still have more than 4,000 independent banking firms. But even four hundred banks with far-reaching branch networks would be a more than adequate guarantee against collusive behavior. More importantly, branch banks could really compete with one another by freely entering any locality. In contrast the present system is one of numerous, local monopolies. Competition is not just a matter of numbers.

In addition to exposing banks to risk, anti-branching restrictions have weakened them in other, less direct ways. During the 19th century they encouraged the growth and "tiering" or "pyramiding" of interbank deposits, with country banks remitting surplus funds to a dozen or more "reserve city" banks, and the latter sending funds to banks in New York City (Smith 1936, pp. 138–40). By this process the same dollar of high-powered money could be reckoned as part of several banks' reserves—a practice formally sanctioned by national

[3]Canada turned to central banking in 1935, for reasons that had little to do with securing financial stability. See Bordo and Redish (1986).

[4]Relative freedom of note issue and activity diversification also contributed to the greater strength of Canadian banking.

banking law. This—along with legal-restrictions on note issue—contributed greatly to the severity of the great money panics of 1873, 1884, 1893, and 1907 by causing illiquidity in any part of the country to have adverse repercussions everywhere else. Anti-branching laws have also stood in the way of bank mergers and acquisitions—the least disruptive way of dealing with troubled banks. Finally, anti-branching laws have indirectly weakened the financial system by providing a rationale for other legal restrictions—patchwork remedies that the supervisory authorities have embraced as a substitute for needed structural reform, but that have ultimately served to further weaken the banking system.

Activity Restrictions. Just as anti-branching laws have subjected banks to increased risks by limiting their geographical diversification, other legal restrictions have done the same by limiting activity-diversification. Laws like the Glass-Steagall Act of 1933—designed to prevent banks from holding high-risk, high-return assets—actually serve (in an otherwise deregulated setting) to *increase* the probability of bank failures.[5] As Blair and Heggestad explain (1978, p. 92), even the taking on of intrinsically riskier assets by a bank reduces the overall variance of returns on the bank's portfolio if fluctuations in the earnings of the riskier assets are negatively correlated to fluctuations in the earnings of the less-risky assets. Empirical evidence suggests that this has indeed been the case in recent years (Litan 1987, pp. 84–96). It appears to have been true, moreover, between 1930 and 1933. As Shughart (1988, pp. 600–602) relates, despite all the rhetoric used to justify Glass-Steagall "securities affiliates were identified as a proximate cause of failure only in the case of the Bank of the United States," which was also guilty of fraud; in general "the presence of an affiliate appears to have reduced the probability of bank failure." The real motive behind Glass-Steagall, according to Shughart, was not to increase bank safety but rather to shield both banks and investment companies from the rigors of competition.

Other legal restrictions have increased the riskiness of bank portfolios, not by restricting the investments banks can engage in, but by actually *requiring them* to make potentially risky investments. A relatively recent instance of this is the Community Reinvestment Act of 1977. Before the Civil War, so-called "free-banking" laws in numerous states forced banks to invest in state and local bonds as

[5]That, at least, would certainly be true in the absence of deposit insurance, which by subsidizing risk taking may encourage banks to diversify in ways that would increase their overall exposure to risk (Litan 1987, pp. 84, 103–4). This implies that deposit insurance itself may have to be reformed or repealed *before* all portfolio restrictions (except those that concern clear conflicts of interest) can safely be lifted.

collateral for their note-issues; in several states the required bonds proved to be very poor investments, becoming the major cause of free-bank failures (Rolnick and Weber 1984). Nor have banks been the only financial institutions to suffer from such requirements: prior to 1981 most thrifts were restricted to mortgage lending, which overexposed them to declining real estate prices.

One especially desirable activity banks might undertake in the absence of Glass-Steagall type restrictions would be to compete with investment companies in offering checkable mutual fund accounts. As Goodhart (1987) explains, because the nominal value of mutual funds varies with the value of their underlying assets, they are (unlike bank deposit accounts) invulnerable to runs. Moreover, bank mutual fund accounts could offer distinct advantages over similar accounts offered by other firms, because bank customers could conveniently make transfers to and from their mutual fund accounts to other accounts offering different advantages (e.g., absence of minimum balance or minimum check-size requirements). Finally, were mutual fund accounts to displace deposits to any substantial degree, the burden borne by deposit-insurance schemes would be proportionately lightened, and the prospects for reforming deposit insurance—by replacing it with private insurance or by repealing it altogether—would be greatly improved.

Deposit-Rate Ceilings. Still other legal restrictions that have served to weaken banks and to create an artificial need for a lender of last resort are restrictions on deposit and loan rates of interest. Deposit-rate ceilings, also introduced by the Banking Act of 1933 (and extended by the Banking Act of 1935) were ostensibly aimed at guarding against banks bidding for customers by offering high rates on deposits, offsetting the higher cost of funds by engaging in unsafe investments with high-gross yields. But studies in recent decades, summarized in Mingo (1981), have challenged this rationale by showing a lack of evidence of any correlation between rates paid on deposits and the quality of a bank's assets. Furthermore if a correlation did exist, it could be because high-yielding assets lead to high deposit rates (as standard economic analysis would suggest) rather than the other way around. A more likely reason for imposing rate ceilings on banks was to preserve the market position of "thrifts," which had evolved to specialize in home finance—a market position that was itself a result of prior restrictions on mortgage lending by national banks (removed in 1914 by the Federal Reserve Act). Rate ceilings also served to prop up banks with a lucrative price-fixing scheme.

Rather than reduce banks' likelihood of failure, deposit-rate ceilings have tended to have just the opposite effect by limiting their ability to bid for funds when threatened by a disintermediation or other liquidity crisis. This was dramatically evident in the 1960s, when banks and later thrifts were racked by a series of disintermediation crises. The trouble started in October 1959, when (as a result of slowly mounting inflation) Treasury bill rates rose to 5 percent—well above the 3 percent Regulation Q limits on time deposits. Banks then faced a disintermediation crisis that was a portent of further troubles to come. As inflation and short-term money rates continued to rise (in part as a result of the escalating costs of the Vietnam War), the Fed found it necessary to allow one-step increases in rate ceilings on CDs for every year from 1962 to 1965 to avoid a recurrence of the 1959 crisis. This policy left the thrifts stranded, however—their own rates being fixed at 4 percent (Wojnilower 1980, pp. 286–87). At last to protect the thrifts, the Fed in 1966 refused to lift bank deposit-rate ceilings again, while simultaneously putting the brakes on monetary expansion. The result was an even more severe bank "credit crunch." Finally in August the Fed reversed its monetary policy again, this time to "rescue" the banks *from its own misguided policies.*

The banking crisis of 1966—the first "financial crisis" (to adopt the conventional, hyperbolic vernacular) in the United States since the Great Depression—was a direct consequence of Regulation Q restrictions combined with erratic Fed monetary policy. This was also true of later disintermediation crises, including the thrift crisis of 1969. If rate restrictions had been absent then as they are today, these crises would not have happened and there would not have been any need for "last resort" lending by the Fed.

Deposit Insurance. The absence of crises is, however, not necessarily evidence of a strong banking system: Weak and even insolvent banks (and thrifts) can also be propped up by subsidies, which tend to encourage them to take on added risks causing them, more often than not, to become even weaker and more insolvent. Deposit insurance and central bank loans have increasingly had these effects in recent years, particularly in the thrift industry where hundreds of bankrupt "zombie institutions" have been kept afloat at taxpayers' expense instead of being allowed to succumb to the Darwinian forces of the market. (Thrifts received their first direct Federal Reserve support on February 23rd, 1989.)

The ill-effects of government deposit insurance are, as is well known, due to its lack of risk-adjusted premiums. This leads to moral hazard whereby the insured firms pursue risks that they would not

pursue in an uninsured state.[6] Depositors, in turn, no longer feel any need to be concerned about the safety of particular depository institutions, and are tempted to supply funds to wherever rates are highest. According to McCulloch (1986, p. 82), thanks to federal deposit insurance

> banks and thrifts have engaged with impunity in all manner of excessive risks—foreign exchange speculation (Franklin National), speculative energy loans (Penn Square), inadequately investigated loans (Continental Illinois), insider loans (the Butcher banks), uncollectable Third World loans (almost every top ten bank) and so forth.

According to Short and Gunther (1988) the present weakness of Texas banks and thrifts is a result, not just of unit banking, but also of "policies that have removed incentives for depositors to reallocate their funds." Encouraged by the FDIC's decision to insure even large deposits at First City Bankcorp and at the First Republic Bank Corporation, depositors actually shifted funds into those troubled firms and out of stronger banks and thrifts. In the same way insurance has been helping bad banks to drive out good banks throughout the United States. As long as such subsidies continued (together with mergers) to provide de facto full coverage, the effects of this progressive financial weakening were not apparent; but with mounting bank and thrift losses, with insurance funds themselves facing bankruptcy, and with mergers subject to increased scrutiny, the cat has been let out of the bag. The present thrift and LDC-debt crises are poignant proof of this weakening. According to Kane (1985, pp. 120–21) the latter crisis is fundamentally due to "the turning on and off of deposit insurance subsidies." To the extent that the Fed is called upon to resolve these crises by acting as a lender of last resort (i.e., by forcing consumers at large to bear the cost through a weakened dollar), it will be addressing, not market failure, but the failure of legal restrictions on banks and thrifts including restrictions it itself has imposed.

The present deposit-insurance crisis suggests that the argument, popularized by Friedman (1960, pp. 37–38), that deposit insurance makes a lender of last resort unnecessary can be the opposite of the truth. For as long as insurance is underpriced, it makes depository institutions more rather than less failure prone. As failures increase, the insurance funds themselves are threatened by bankruptcy. A lender of last resort is then needed to bail out the funds directly or

[6]Thus the problems Glass-Steagall and Regulation Q were supposed to prevent *can* exist in the presence of federal deposit insurance.

to bail out and subsidize mergers of insolvent banks. Not to do so could lead to panic, as many depositors have no reason to trust their banks apart from the guarantees that insurance provides. The 1985 Ohio and Maryland S&L crisis bears this out quite clearly.

The Lender of Last Resort Itself. By the same token, though, the Fed is also one of its own worst enemies (I am tempted to say one of its own best excuses), because it also encourages banks to take on excessive risks, leading to trouble. That lenders of last resort can also be a source of moral hazard is, of course, recognized even by their most ardent supporters (e.g., Kindleberger 1984, p. 280). According to Garcia and Plautz (1988, p. 112),

> Lender-of-last-resort assistance can be viewed as a form of subsidized government intervention. If potential recipients interpret such assistance to mean that the central bank would step in to bail out any institution in difficulty, the available assistance could encourage (even subsidize) additional risk-taking among institutions with lender-of-last-resort access.

This problem, which has been called "The Bagehot Problem" (after Walter Bagehot, who drew attention to it in *Lombard Street)* would be avoided if the lender of last resort followed Bagehot's advice—in offering support only to solvent institutions at penalty rates. But Bagehot's advice is violated by most central banks in practice, as the rescue of Franklin National glaringly demonstrated (see Garcia and Plautz, 1988, pp. 217–28).

The "Contagion Effect" Myth

The preceding review suggests that legal restrictions have played a role in many, though by no means all, bank failures. Obviously failures—including failures due to outright fraud—would also occur under laissez faire. Such failures should not have to be regretted, though. On the contrary, in banking as in other industries, failures are needed to discipline and weed out bad managers; furthermore, if they lead to takeovers (or if banks are well capitalized), *isolated* failures need not cause bank customers to suffer large losses. The great fear of failure that affects regulatory authorities today reflects the widespread belief that failures, instead of being limited to poorly managed banks, will have undesirable "third-party" effects, causing panic to spread indiscriminately to other banks in the system.

Indeed, a lender of last resort is needed only when such "contagion, spillover, or domino effects" threaten "the stability of the entire monetary system" (Humphrey and Keleher 1984, p. 278), for otherwise runs and failures at one or several depository institutions would result in a transfer of funds to others, strengthening rather than weak-

ening the latter. Only if panic becomes general—if depositors lose confidence in the entire banking *system*—will depositors switch to holding high-powered money, weakening all depository institutions in the process.[7] Thus a crucial (though often implicit) assumption in the pro-lender-of-last-resort literature is, to quote Solow (1982, p. 238), that "any bank failure diminishes confidence in the whole system," leaving no private banks in a position to stem a panic.

This is a very strong assumption, especially in view of the paucity of support one finds for it in history. In U.S. experience Rolnick and Weber (1986) found no evidence of any contagion effects from bank runs during the "free-banking" era (1837–60). Reviewing the national banking era (1863–1913), Kaufman (1988, p. 16) found only limited evidence of contagions in the panics of 1878, 1893, and 1908; and the evidence is weak except for 1893. Even during the "Great Contraction" of 1930–33—the episode from which contemporary authorities still seem to draw all of their conclusions—contagion effects appear to have been limited regionally until late 1932; prior to 1932, moreover, runs were confined for the most part to banks suffering from pre-run insolvency or to banks affiliated with insolvent firms (Wicker 1980). Even the failure of the Bank of the United States in December 1930 did not provoke any panic runs in New York City, according to Wicker (p. 580). Finally, in their study of more recent experience, Aharony and Swary (1983) found no evidence of any contagion effect (measured by a fall in bank stock prices) following the failures of the United States National Bank of San Diego or the Hamilton National Bank of Chattanooga; they did find evidence of a very limited contagion (involving banks known to be heavily involved in the foreign-exchange market) stemming from the failure of Franklin National. Their overall conclusion (p. 321) was that the "failure of a dishonestly run banking institution, even a large one, need not cause panic and loss of public confidence in the integrity of the banking system as a whole."[8]

Still more recently the failure of Continental Illinois in 1984 also led to a slight and short-lived stock-price contagion; but it (like all previous, recent failures of large banks) did not lead to any net-withdrawal of high-powered money by noninsured depositors

[7]This contradicts a statement in Guttentag and Herring (1983, p. 6). Depositors may also switch into high-powered money despite their continuing confidence in banks, because their payments plans demand greater use of hand-to-hand money. As will be shown below, such behavior would not pose any threat to a fully deregulated banking system.

[8]Goodhart (1987, p. 85) reaches the same conclusion with respect to recent runs in the United Kingdom.

(Benston et al. 1986, p. 66). The run on Home State Savings and Loan in Ohio in 1985 did involve some withdrawals of currency and did spread to other Ohio S&Ls covered by the same insurance scheme (as well as to privately insured S&Ls there and in Maryland); however, it also did not involve any general panic but only a limited panic based upon depositors' (justified) concern over the condition of their accounts' insurers together with uncertainty as to the Fed's likely response.

In Canada also, bank runs usually do not seem to have been contagious. According to Schuler (1988, pp. 37, 54), the only exceptions have been the panic on Prince Edward Island in 1881, which spread from the insolvent Bank of Prince Edward Island to other local banks owed money by it, and runs in 1985 on several small western banks following the failures of the Canadian Commercial and Northland banks.[9] In neither incident did runs affect any of Canada's nationwide banks. "[I]mmuity to runs," Schuler concludes, "apparently depends greatly on bank size."

All of this evidence adds up to one crucial fact: that the public generally knows more about the state of the banking system than the supervisory authorities give it credit for knowing. When certain banks or groups of banks get into trouble (or are suspected with good reason of being in trouble), depositors transfer funds from those banks into other, safer banks. They do not lose confidence in the banking system as a whole. This suggests that last resort assistance by a central bank, particularly to institutions suffering from pre-run insolvency, is unnecessary except on *very* rare occasions.

What about those "rare occasions"? Don't they supply a sufficient rationale for having a lender of last resort? The answer depends on what *causes* have given rise to contagion effects. One possible (and popular) explanation can be readily dismissed: This is the "random" or "bubble" theory of panics as entertained by Kindleberger (1978), Bryant (1981), Diamond and Dybvig (1983), Waldo (1985), and many others. According to this theory, panics need not be based upon any real shock with predictable, adverse effects on bank earnings, but may occur even in response to intrinsically irrelevant events, such as sunspots. All of the evidence reviewed above, as well as the findings of Gorton (1986), disputes this view, supporting instead the alternative hypothesis that panics are based on prior, real shocks with predictable adverse repercussions on bank earnings.

[9]O'Driscoll (1988, p. 672) observes that these failed banks "were more like the typical U.S. rather than the typical Canadian bank. Neither . . . was widely branched, and they were specialized energy banks."

Under what circumstances, then, might such shocks expose an entire banking system to contagious runs, as they seem to have done in 1932 and (perhaps) in previous crises? One possible circumstance is when banks are involved in one another's assets through correspondent relationships. As Garcia and Plautz (1988, p. 19) point out, the failure of a correspondent "can bring down a chain of its respondent banks." This was one justification given by the Fed for rescuing Continental Illinois. But the depth and breadth of correspondent relationships in U.S. banking is itself, as was explained earlier, a consequence of unit banking, which should become less and less important as branching restrictions are lifted. Even as matters stand, moreover, correspondent relationships are hardly extensive enough to be likely to cause a flight to currency.

Another cause of contagion effects—one that also played a crucial role in the 1932 panic—is resort to bank holidays. As Benston et al. explain (1986, p. 52), fears of widespread panic that inspire government officials to declare a bank holiday can easily become "a self-fulfilling prophesy": a holiday freezes up part of the money supply, reducing incomes generally and encouraging withdrawals by clients of otherwise solvent banks that fear the holiday will spread. In this way Nevada's bank holiday on October 1932 had its own "domino effect," culminating (with the help of depositors' apprehensions concerning FDR's fidelity to the gold standard) in the national bank holiday in March 1933. In the same way, Maryland depositors were inspired to run on their S&Ls in part because they feared Maryland would follow Ohio's example by declaring a holiday.

Resort to bank holidays is particularly unfortunate in that it is a substitute for a more-effective but less-dangerous alternative: This is a "restriction" or "suspension" of high-powered money payments of the kind resorted to by private banks (with the government's acquiescence) in the pre–Federal Reserve era, and that Herbert Hoover was prevented from implementing in February 1933 owing to Roosevelt's refusal to cooperate. Because a restriction allows banks to remain open to conduct lending operations and also to receive deposits and settle accounts with one another (or even, perhaps, with banks not affected by the restriction), it constitutes less of a "freeze" on the money supply and hence less of a reason for depositors at other banks to panic. Later I will argue that such suspensions are also consistent with maximizing banks' earnings and consumers' utility, so that they could play a role even in a fully deregulated banking system.

A third likely cause of a banking contagion is a macroeconomic shock so severe as to place all or most banks in danger of insolvency

despite their best efforts to diversify. All that needs to be said about this is that its most likely cause would be irresponsible behavior by a central bank.[10] Thus it hardly constitutes a good reason for giving central banks extra leeway (including the issue of inconvertible money) to allow them to serve as lenders of last resort.

A final and most important potential cause of contagion effects in response to real shocks is an "information externality." Such an externality may be present whenever bank depositors are unable to inform themselves of the riskiness of their own banks, and so are forced to generalize from the troubles experienced by others. To the extent that such externalities are present, the evidence reviewed above suggests that their effects are limited: Depositors do seem to know *something* about their banks, so that, at worst, trouble spreads from insolvent banks to others that are, if not insolvent themselves, in some nontrivial way "similar" to the insolvent banks. Moreover, it will be argued below that information externalities are themselves yet another by-product of legal restrictions, which would be absent (or much less severe) under laissez faire.

Market Support Mechanisms

Private Last-Resort Lending. Another implicit assumption in the lender-of-last-resort literature is that, if a central bank does not avert a financial crisis, private agents will not, either: The rendering of aid to troubled banks to avoid a systemic banking collapse is regarded as a "public good" (e.g., Solow 1982, p. 241ff.). Here again the assumption has little foundation in fact: Although bank runs and failures may have third-party effects, these do not necessarily imply market failure. As long as some private banks are not threatened by runs (and are indeed receiving money withdrawn from other institutions), it will be in their interest to aid their solvent but illiquid rivals. Nor is there any basis for the claim, made by Guttentag and Herring (1983, p. 5) and implied elsewhere, that a government lender of last resort "may have better information than the private markets . . . and may know that [a] bank is solvent when the private market does not."

In fact private providers of last-resort assistance are much more likely than any central bank to conform to the "classical" recipe of lending only to solvent institutions at penalty rates, in part because doing so is entirely consistent with profit-maximization. As will be seen below, by refusing last-resort assistance central banks in the past have managed to reinforce their own privileged status—a status

[10]Reasons for this are given below.

that rendered them peculiarly immune to confidence externalities. More recently, on the other hand, central banks have been inclined to extend aid at subsidy rates and often to insolvent institutions (Garcia and Plautz 1988, p. 54; Sprague 1986, *passim*). In doing so they in effect act as lenders, not of last, but of first resort. Such behavior allows central banks to create an exaggerated impression of their importance. It serves, at the same time, to further weaken the banking system by creating another "moral hazard" and by discouraging the development of private arrangements for responding to crises.

Central-bank aid to *insolvent* institutions is especially harmful: Last-resort aid fulfills its purpose when it serves to signal the public that an institution is indeed viable. Aid to insolvent banks undermines this purpose, as the public discovers that a bank—even though it has received assistance—may still fail. Thus an offer of last-resort aid may no longer suffice to end a run and may not suffice even if the stricken institution really is solvent, because the offer of aid no longer serves to convince a skeptical public that this is indeed the case. For this reason the Fed alone was unable to end runs at First Pennsylvania Bank in 1980 and at Continental Illinois in 1984. As Garcia and Plautz explain (1988, p. 168), private assistance had to be included in the rescue packages to those banks "to demonstrate that those with their own monies at risk were confident that the crises would be resolved without losses being incurred by uninsured depositors."

Although the rendering of emergency assistance by private banks has been quite common throughout history, legal restrictions have hampered it in numerous ways, all of which generate an artificial need for central-bank assistance. The fact that central banks often underbid would-be private rescuers has already been mentioned. Branching restrictions are also to blame, for by encouraging the proliferation of small banks, such restrictions—in addition to making banks more failure prone to begin with—also hinder the assembly of large, wholly private rescue packages. Even an overnight loan backed by plenty of collateral, if very large (like the Fed's 23-billion dollar loan to the Bank of New York in 1985) poses a tremendous, if not insuperable, challenge to numerous small banks that could easily be met by a group of larger banks acting in concert.

Takeovers and Mergers. Bank regulatory authorities generally agree that the best way to dispose of an insolvent bank or thrift is not to liquidate it but, if possible, to have it taken over by a solvent bank or bank holding company. Yet although they are pleased to take credit for frequently arranging such takeovers, the fact is that legal restrictions and policies sanctioned by the authorities themselves

are the main impediments to takeovers, which could otherwise proceed in such a way as to permit greatly reduced reliance upon the central bank as a lender of last resort. Kareken (1986, p. 11) sums up the situation nicely:

> If a bank is, for instance, constrained to have no branches, then neither can it acquire another bank and . . . keep the acquired bank in existence. . . . Bank acquisitions and mergers are, then, to an extent limited by state branching restrictions or, more fundamentally, by the McFadden Act. But that is not all. Under present-day federal bank regulatory policy, no bank with FDIC-insured balances can go ahead with an acquisition or merger until it has gotten the approval of the appropriate federal bank regulatory agency, whether the OCC, the FDIC, or the Federal Reserve Board (FRB), all of which are, as it were, special antitrust agencies.[11]

As if this were not enough, the Bank Merger Act of 1966 allows the Department of Justice to challenge any bank acquisition or merger approved by the above listed agencies (Kareken 1986, p. 12), while Federal Reserve restrictions make bank holding company acquisitions of thrifts unattractive. All of these impediments to takeovers reflect the authorities' "bigness paranoia"—their obsession with concentration ratios in banking—which prevails despite the fact that banking in the United States is a long way from being as concentrated as banking elsewhere. Somewhat ironically, the shortage of big banks in the United States is itself a barrier to takeovers, because bigger banks can much more readily absorb the business of smaller banks than other small banks can.

Another unfortunate aspect of present policy is that, until very recently, it has permitted takeovers only of insolvent or nearly insolvent banks and thrifts. This clearly lowers the odds of finding eligible bidders for a bank or, alternatively, makes it necessary for the authorities to sweeten the pot by assuming some of the bad assets of a failed institution or by providing subsidized "leverage." Indeed, Kane (1985, p. 11) reports that, for large banks especially, the regulatory authorities "ordinarily make a tenacious effort through subsidizing lending to keep troubled institutions afloat well past the point of market value insolvency" using "cosmetic accounting" to hide the practice. This policy of forbearance is the equivalent of administering a "poison pill" to failing institutions in its efficacy in discouraging potential acquirers. It also encourages insolvent firms to "go for

[11]Recent changes in the law, including the Garn-St. Germain Act of 1982, provide for only limited relaxation of branching restrictions in the absence of similar reforms of state laws.

broke"—taking on risky investments in a last-ditch effort to stay alive.

The very fact that would-be takeovers or mergers must be disclosed to the authorities before they can proceed makes voluntary (i.e., hostile but non-shotgun) takeovers of poorly managed banks less likely. As Jensen explains (1988, pp. 44–45), prior disclosure of a planned takeover of a publicly traded firm allows stockholders in the target firm to bid up the price of its stock to equal the full discounted value of any expected gain in net earnings from the takeover. Thus nothing is left for the would-be acquirer, which (unless offered a last-minute subsidy) has every incentive to bow out.

In sum, the elimination of branch restrictions and a laissez-faire policy toward mergers and takeovers would have allowed many of today's problem banks and thrifts to have been quietly absorbed by sound institutions well before their net worth became negative, and would have done so without need for "last-resort" subsidies made at taxpayers' expense.

The Role of Currency Monopoly

So far I have argued that restrictions on branch banking, portfolio diversification, interest rates, and mergers, together with mispriced deposit insurance and "emergency" loans, have contributed to the fragility of the U.S. banking system, making it crisis prone and generating an artificial need for a lender of last resort. Yet this account seriously understates the case against having a central bank functioning as a lender of last resort, because it fails to reveal how *the very presence of even a well-behaved central bank is itself a fundamental cause of financial fragility.* This is so because central banking entails a monopoly in the supply of hand-to-hand currency, which has historically been a particularly destructive legal restriction on private banking as well as a crucial cause of monetary instability. Rather than being merely a *means* which allows central banks to act as lenders of last resort (Humphrey and Keleher 1984, p. 176), currency monopoly was the original *raison d'être* of central banks and a cause of the troubles central banks were called upon to correct only as an afterthought.

Currency monopoly directly contributes to financial fragility in three ways: (1) by preventing private banks from independently accommodating changes in the public's relative demand for currency; (2) by precluding a secondary market for bank liabilities; and (3) by creating a new and unstable form of high-powered money.

Currency Demand

A major part of the so-called "inheritant instability" of contemporary fractional-reserve banking rests upon the fact that private banks cannot issue notes. An increase in the public's demand for currency relative to its demand for deposit balances under such circumstances must lead to withdrawals of high-powered money from banks' reserves. Unless the withdrawals are somehow neutralized, they will provoke a multiplicative contraction of deposits.[12] Insofar as an increase in the relative demand for currency does not reflect a loss of confidence in banks (as is typically the case), then redeemable bank notes (which like deposits are a claim against some ultimate money of redemption) can be perfectly adequate in satisfying it. Of course, as Rockoff (1986, p. 629) points out, freedom of note issue cannot prevent a crisis if deposit holders do lose confidence in the banking system and therefore choose to withdraw the ultimate money of redemption (an extreme possibility to be dealt with by separate means, discussed below). But restrictions on note issue only serve to increase the likelihood of this happening by causing even non-panic-driven increases in currency demand to place a strain on the banking system, thereby helping to inspire a loss of confidence.

History is littered with instances that bear out these claims, a number of which are described in Selgin (1988, chap. 8). Perhaps the most notorious were the great "currency shortages" of 1893 and 1907 in the United States, which provided a rationale for the establishment of the Federal Reserve system. Although national banks were legally permitted to issue notes, they were hampered after 1882 by the growing scarcity of government securities, required by the National Banking Act as collateral for note issues. A seasonal stringency of credit emerged each year with the autumnal increase in demand for currency "to move the crops." On the aforementioned dates this stringency degenerated into full-scale panic. Private banks, clearinghouses, and other firms issued millions of dollars worth of "currency substitutes" in partly successful efforts to stem the crises. Most of this ersatz currency was probably illegal, but its successful use helped to reveal the extent to which the crises were an avoidable consequence of legal restrictions on note issue. Here again Canada offers an interesting counterexample, for what were "crises" in America took the form there of mere increases in the outstanding stock of private

[12]Even Lloyd Mints (1950, p. 186)—one of the original proponents of this "inherent instability" thesis—admits that it "is due in part to a wholly unnecessary legal restriction," namely, restrictions against note issue. He goes on to say that, to be consistent, "the defenders of fractional-reserve banking should propose [to give banks] the privilege of note issue with the same required reserve ratio for notes and deposits" (p. 188).

bank notes, some of which crossed the border to provide relief to Americans suffering from a shortage of exchange media.

Another example is the role of the Fed's monopoly on note issue in helping to bring on the "Great Contraction" of 1930–33. As income falls, the demand for hand-to-hand currency increases relative to the demand for deposits independently of any loss of confidence in the banking system. Thus some of the post-1929 withdrawals of high-powered money which placed a strain on many banks might have been avoided had the banks been able to issue notes as well as create deposits.

A Secondary Note Market

Previously I observed that a contagion effect could take hold in a system of unregulated deposit banks as the result of an "information externality." Because depositors lack knowledge of bank-specific risks, any real shock known to have rendered one bank insolvent may be regarded as a likely cause of serious damage to others. Thus bad news concerning one bank spills over to apparently similar banks.

It turns out that this potential cause of a banking contagion is another consequence of legal restrictions on private, competitive note issue. As Gorton (1987) explains, prices of financial assets for which secondary markets exist will—according to the efficient markets hypothesis—tend to reflect their relative riskiness. Thus a secondary market for bank money can, in theory, be a reliable source of information concerning bank-specific risks, which could serve to limit bank runs to truly insolvent firms. However, the secondary market for checkable deposits is too "thin" to be efficient, because checks drawn by different persons for the same amount and from the same bank are distinct assets. Therefore, freedom of note issue is necessary if market price signals are to be relied upon to stamp out a contagion.

A secondary bank-note market is typically portrayed as involving professional non-bank-note "brokers" as well as bank-note "reporters"—weekly publications with information on note discounts. If brokers do not request any risk-related discount (beyond transaction costs) to redeem a bank's notes, holders of those notes can rest assured that the bank is solvent and will not have any incentive to "monitor" its solvency by staging a run on it. On the other hand, holders of notes trading at a discount do not need to run, either, but can "walk" to a broker who charges them for assuming the risk that the notes' issuers may fail.

Though secondary note markets did indeed function this way in the United States and elsewhere in the early 19th century and

before,[13] the tendency in a fully unregulated system is for brokers and bank-note reporters to give way to banks with nationwide branch networks accepting one another's notes directly or through clearinghouses at par.[14] It has been suggested (e.g., Gorton 1987, p. 3) that this tendency also implies the abandonment of a secondary note market and the return of an information-externality problem. The truth is rather that there is still a "virtual" secondary note market in which banks and clearinghouse associations rather than brokers become "market makers" and where notes tend to be priced either at par or at zero (the latter being the case where a note is refused in payments to banks other than its issuer). The "binary" system of note pricing in this "virtual" market is sufficient to avoid a contagion effect. Noteholders have reason to stage a run only on banks whose notes are not being accepted at par by other banks. Because notes unlike checks are fungible, a person who deposits a note with a rival bank need have no fear that the bank will refuse to credit his or her account after (unsuccessfully) trying to redeem the note. Thus a bank's acceptance of a rival's note is, unlike its acceptance of a check, a definite token of its confidence in the rival's solvency. It is only when par acceptance of notes by rival banks *is required by statute* (as it was, for example, under the National Banking Act of 1864) instead of being voluntary that it ceases to be a reliable source of information about bank-specific risk. With freedom of note issue and exchange in *any* of its likely forms, a bank information externality would be extremely unlikely.[15]

High-Powered Money

It is widely believed that financial crises are most likely to occur in periods of tight money following longer periods of monetary ease (Kindleberger 1978; Minsky 1977, 1982; and many theorists of the "Austrian" school). Experience seems to confirm this view (Garcia and Plautz 1988, p. 7), which suggests yet another reason for viewing central banking and currency monopoly as a cause of, rather than a cure for, financial instability. The reason is that a currency monopoly

[13]On the functioning of the secondary note market in the United States prior to 1845, see Knodell (1988).

[14]For an account of how and why this happens, see Selgin (1988, chap. 2).

[15]That deposits would still lack a distinct secondary market (or virtual secondary market) of their own does not matter if they are backed by the same general assets as notes are. This has always been the case for unregulated banks, though it was not true for the banks of the so-called "free-banking" era in the United States or for national banks afterwards. For this and other reasons, these banks were subject to information externalities despite being able to issue notes. See Selgin (1988, pp. 138–39).

makes possible much more erratic fluctuations in the money stock than can occur in banking systems where currency is issued competitively in the form of redeemable notes. When note issue is monopolized, the liabilities of the privileged bank of issue inevitably become high-powered money even though they themselves may still be redeemable in specie.[16] This high-powered money replaces specie as the principal bank reserve-medium, the consequence being that the bank of issue is relieved from suffering any adverse clearings when it overissues. Furthermore, any expansion or contraction of the privileged bank's liabilities leads to a multiple expansion or contraction of deposits at unprivileged banks, to be checked only when international specie-flows force the bank of issue to alter its course. Obviously if a central bank suspends specie payments, or if a permanent fiat-money system is established (something relatively easy to do once notes are issued monopolistically), the privileged bank's power to inflate or deflate will, in principal at least, be unlimited.

A central bank's power to unilaterally expand or contract a nation's money stock must be compared to the relatively limited potential for similar expansion or contraction in a free-banking system. Elsewhere (Selgin 1988, chaps. 3–6) I explain in detail why free banks, unlike a central bank, cannot unilaterally or collectively affect a change in the price level or in nominal rates of interest. For this reason, and also unlike a central bank, they cannot unilaterally deplete a nation's gold stock by overissuing. This makes them incapable of creating the circumstance most frequently to blame for both American and European financial crises under the gold standard: a rising domestic price level (with or without a speculative "mania") combined with a shrinking stock of specie.[17] Needless to say, free banks would also be incapable of the hyperinflations and secular stop-and-go inflations that distinguish fiat-money regimes and are the most important cause of financial crises in more recent history.

To a remarkable extent, the literature on financial crises has turned a blind eye toward these fundamental truths. Thus Kindleberger (1978, p. 52) lists the growth of private banking and financial instruments, gold discoveries, and (p. 17) the ability of competitive banks to

[16]See Selgin (1988, pp. 48–49).

[17]Humphrey and Keleher observe (1984, p. 279): "Crisis situations involving the LLR [lender of last resort] frequently followed excessive credit expansions. Such credit expansions often were large and prolonged enough to produce outflows of specie and to foster doubts about the ability of commercial banks to redeem their paper in gold."

"stretch" their reserves as causes of excessive monetary expansion,[18] while treating privileged (central) banks as sources of stability:

> Central banking arose to impose control on the instability of credit. The development of central banking from private banking, which is concerned to make money, is a remarkable achievement. By 1825, division of labor had been agreed upon: private bankers of London and the provinces financed the boom, the Bank of England financed the crisis [Kindleberger 1978, p. 77].

This is a truly incredible interpretation of the history of banking in England. It would certainly have come as a surprise to the directors of the Bank of England, both in 1825 and for many years after, to learn that they, unlike private bankers, were not "concerned to make money" or indeed that their bank's privileged status was awarded to it so that it could "impose control on the instability of credit." They would probably have been inclined to think that the whole point of the Bank's possessing the powers and privileges it possessed was precisely to enable it "to make money" and, more importantly, to enable it to make money more easily than other banks could in return for its sharing some of the money with the government. As regards the alleged "division of labor" in 1825, we have already seen how it is theoretically suspect. Moreover in voicing a view made famous by the Bank directors during the Restriction, Kindleberger ought to know that he is standing on thin ice. Just as some participants in the bullionist controversy blamed the Bank of England rather than the country banks for depreciation of the pound during the Restriction (White 1984, pp. 55–58), later writers including Parnell and Mushet (cited in White, p. 63) laid blame for the 1825 crisis squarely on the shoulders of the Bank of England and its overissues of 1824–25.[19] Their view is also upheld by more recent authorities including Nevin and Davis (1970, p. 43), who note that the country banks had been *contracting* their note issues and accumulating reserves locally and in London after 1819 in anticipation of resumption. Their policy changed after 1822, when the Bank of England—encouraged by a last-minute decision of the government to allow a continuance of country small-note circulation until 1833 (Thomas 1934, p. 42)—imprudently decided to employ the large reserves it had gained from the countryside by reducing its lending rate to 4 percent and extending the maturity of eligible bills from 65 to 95 days. "The

[18]For critical remarks on these alleged causes of monetary overexpansion, see Selgin (1988, chap. 6 and pp. 129–33).

[19]It is worth noting that not a single Scottish bank failed or felt the need to apply to the Bank of England for assistance during the 1825 crisis. See White (1984, p. 47).

country banks," according to Nevin and Davis "could hardly do other than follow these changes in the credit situation" by expanding their own issues.

For some later episodes (when the "division of labor" should have been even more firmly established) the evidence against the Bank is still more conclusive. A recent case in point was the "fringe bank" crisis of 1973–74. According to Reid (1982) that crisis was based on a boom willfully engineered (with the Bank of England's help) by the Heath government in its "dash for growth." Nor has the Bank of England been the only central bank to be guilty of errors of commission (and not merely of omission) in modern times. As Garcia and Plautz observe (1988, p. 111), the Fed on several occasions has set "the stage for real and financial sector insolvencies and liquidity crises." Excessive expansion of money made possible by the existence of central banks exposed financial institutions to wider and more frequent swings in nominal interest rates than could or would have occurred otherwise. An example of this cited by Kindleberger himself in a recent article was the Fed's attempt to assist Nixon's 1972 reelection by expanding the money stock in the hope of lowering interest rates (Kindleberger 1988, p. 176). To suggest as Kindleberger does elsewhere that such behavior contradicts the true purpose central banks "arose" to fulfill is to ignore their historical origins entirely. It is like suggesting that lions "arose" in order to perform circus acts. The real surprise is not that central banks inflate but that they have been trained occasionally *not* to do so.

To conclude: Monopoly in currency supply is more a cause of, than a cure for, financial fragility. This fact helps to account for the stability of past, decentralized banking systems such as those of Scotland (White 1984), Canada (Schuler 1988), Sweden (Jonung 1985), and Switzerland (Weber 1988) in the 19th century—a success that must appear paradoxical to those who regard fractional-reserve banking as inherently unstable and in need of a lender of last resort.[20]

The Political Economy of Central-Bank "Hierarchy"

There is yet another, more subtle way in which restrictions on private currency issue have contributed to the perceived need for a lender of last resort. This is by indirectly fostering the view that private banking is *naturally* hegemonic or "hierarchical" (Gorton 1987, Gorton and Mullineaux 1987, Goodhart 1988). This view sug-

[20]There are, of course, many criticisms of competitive note issue—including the claim that it is inconsistent with a generally well-behaved money supply—which I am not able to consider here. For a fairly comprehensive discussion, see Selgin (1988).

gests that free development of a banking system would naturally lead to its being dominated by a single firm, from which other banks would borrow in times of stress, and to which they would send their reserves in normal times. What this view neglects is that the extent of hierarchy observed in contemporary banking systems is not consistent with private bankers' pursuit of their selfish interests in an unregulated setting (Selgin 1988, chap. 2). Such hierarchy is another consequence of legal restrictions, including especially restrictions on note issue, that have allowed particular banks to dominate and control their rivals while also weakening the latter.

By far the most important example of this in history has been the rise to dominance of the Bank of England. The Bank's emergence as a central bank was the result of its receiving a series of legal privileges in return for large loans to the government (Smith 1936, pp. 9, 129; Bagehot [1873] 1915, pp. 90–97). Among the Bank's more important privileges prior to 1826 were (1) its monopoly of note issue within a 65-mile radius of London, (2) its monopoly of limited liability and joint-stock banking, and (3) its status as exclusive holder of the government's deposits. The prohibition of limited liability and joint-stock banking outside of London was especially injurious, as it forced most of England to depend upon small, undercapitalized "country" banks as a source of currency.[21] According to Lord Liverpool (quoted in Dowd 1989, p. 125), this arrangement was

> one of the fullest liberty as to what is rotten and bad, but one of the most complete restrictions as to all that is good. By it a cobbler or cheesemonger [may issue notes] while, on the other hand, more than six persons, however respectable, are not permitted to become partners in a bank with whose notes the whole business of the country might be transacted.

According to Parnell (quoted in White 1984, p. 40), it was the presence of so many "cobblers and cheesemongers"[22] in English banking that caused hundreds of banks there to fail in 1826. In contrast, the relative freedom of Scottish banking had endowed it with several

[21]For many years the Bank itself did not feel compelled to establish branches for the issue and redemption of its notes beyond the city. An 1826 campaign led by Thomas Joplin resulted in a new law allowing the establishment of joint-stock banks outside of London; but the law did not permit the new joint-stock banks to issue notes, and it encumbered them with a variety of "irksome" restrictions. Although many of the latter were eventually removed, the prohibition against joint-stock bank-note issues remained in place. See Nevin and Davis (1970, pp. 59–60).

[22]It is not clear whether Parnell borrowed this expression from Lord Liverpool or vice versa.

strong joint-stock banks, with nationwide branches, all of which were unharmed by the crisis in England.

The Bank of England's privileges also caused other banks to keep their specie reserves with it and to treat its liabilities as their ultimate source of liquidity.[23] This situation only served to enhance the subservience of the weaker banks to their privileged rival, causing the system to be still more top heavy and "hierarchical." The Bank had learned, furthermore, that in the event of a crisis it could rely upon the government to protect it from bankruptcy by sanctioning its suspension of payments. Thus while other banks were unnaturally dependent upon the Bank, it could refuse to assist them with impunity—a kind of moral hazard opposite the kind most associated with central banking today. A relatively late example of this may have been the Bank's refusal to extend aid to Overend, Gurney and Company in 1866 (De Cecco 1975, pp. 80–82). A better example, perhaps, was the Bank of France's willful destruction of rival, provincial banks of issue in 1847–48 (Kindleberger 1984, pp. 104–7). Such conduct by central banks only serves, of course, to further strengthen their command over remaining, underprivileged rivals.

The exalted status of the Bank of England did not just make other English banks depend on it. For London was also the financial capital of Great Britain and, indeed, the world; to dominate the London money market was, therefore, to dominate the world money market. The consequence of this was that non-English banks, including the Scottish banks during the free-banking era, occasionally looked upon the Bank of England as a potential source of emergency short-term funds.

This fact has led several writers (Cowen and Kroszner 1989; Rockoff 1986, p. 630; Rothbard 1988; Sechrest 1988; Goodhart 1988) to deny that banking in Scotland was ever truly free after all because it, too, depended upon access to a central bank. In arguing thus they confuse a banking system's reliance upon access to a financial center with its reliance upon access to a privileged bank of issue. Had banking in England been free, there is no doubt that London would still have been Great Britain's (as well as the world's) financial center. In that case Scottish banks might have relied upon any of several large, English joint-stock banks to gain access to the central money market or, better still, would simply have located their own branches (if not their headquarters) there. To really appreciate the irrelevance of this criticism of free banking, though, one should contemplate

[23]This practice was officially sanctioned by the Bank Act of 1833, which made Bank of England notes legal tender for payments among other banks.

what would have happened if Scotland had set up a monopoly bank of issue while England allowed its banks to develop free of legal restrictions. Then economists might have been treated to the spectacle of a privileged central bank having to rely upon several competitive banks of issue as "lenders of last resort" and as conduits to the national and world money markets. What conclusions would they have drawn from this? What conclusions should be drawn from the fact that large Canadian banks have sometimes relied upon private banks in New York City both prior to and after 1913? Finally, what should one conclude from the experience of the Swedish *enskilda* banks prior to 1900—which were as a matter of policy refused assistance by the more privileged Riksbank but which were free of failures nonetheless—or from the similar experience of Switzerland's cantonal banks of issue in the years preceding the Franco-Prussian War? None of the latter systems can be said to have depended even indirectly upon assistance from a privileged central bank.

Thus the "hierarchy" enjoyed by central banks is not a natural development but rests on "a combination of political motives and historical accident" (Smith 1936, p. 2), the most important motive being governments' desire to gain financial favors from particular banks. Far from being consistent with the healthy development of private banking, such hierarchy is a cause of financial weakening: The strength enjoyed by central banks is strength sapped from their would-be rivals. Moreover, the central-banking "game," in which strength is transferred from several banks to one bank, has a negative sum.

Significantly, Walter Bagehot—the "high-priest" of central banking—understood all of this. The Bank of England's special responsibilities stemmed, in his view, from its holding "the ultimate banking reserve of the country." But this fact, far from being natural, was due to the Bank's "accumulation of legal privileges . . . which no one [sic!] would now defend" ([1873] 1915, pp. 66, 90–97). Far from wanting to defend "the monarchical form of Lombard Street," Bagehot (pp. 65–67) called it "dangerous" and contrasted it unfavorably to the "natural" system "of many banks of equal or not altogether unequal size [that] would have sprung up if Government had let banking alone":

> In all other trades competition brings the traders to a rough approximate equality. There is no tendency to a monarchy in the cotton world; nor, where banking has been left free, is there any tendency to a monarchy in banking. . . . A monarchy in any trade is a sign of some anomalous advantage, and of some intervention from without.

Present-day defenders of central banking have neglected this part of Bagehot's teachings, twisting his "second-best" argument for central banks into a "first-best" argument.[24]

Panic-Proof Free Banking

I have tried to suggest above that the maximization of banking efficiency and the avoidance of fragility and crises are not conflicting goals, one of which demands competition and financial liberalization and the other of which demands regulation and control. A liberalized and hence competitive banking system is likely to be both more efficient *and* less fragile and crisis prone.

Nevertheless, even such a free-banking system would not necessarily be panic proof. As long as banks continue to have liabilities unconditionally redeemable on demand, while holding only fractional reserves, the possibility of a systemic collapse would still exist. The system could still be exposed to a sudden increase in the public's demand for the ultimate money of redemption, prompted by an invasion or revolution; or it might be threatened by a major computer malfunction (like the one that caused the Bank of New York's 23-billion dollar default in 1985). An important question, then, is whether a lender of last resort would be necessary even in a deregulated system to guard against such rare events.

The answer, I think, is that it would not, the reason being that the widespread reliance upon bank liabilities unconditionally convertible on demand is itself an artificial consequence of legal restrictions. As Rockoff points out (1986, p. 623), the Act of 1765 imposed a fine of £500 on any Scottish bank failing to redeem a note on demand; likewise free-banking laws in the United States required state authorities to redeem *all* of a bank's notes from the proceeds of sales of deposited bonds in the event that the bank failed to redeem a single dollar on demand.[25] Such laws prevented banks from offering alternative, contingent-convertibility contracts to their customers, thereby needlessly exposing them to a higher risk of default and panic.

[24]Kindleberger (1978, p. 164) even declares that Bagehot "thought it proper that the Bank of England, and not the banks themselves, should hold the reserves necessary to get the country through a panic"—the exact opposite of the truth.

A well-known British economist who shared Bagehot's critical views on central banking was Sir Robert Giffen (1905, pp. 175–76).

[25]Enforcement of the law was another matter. There are plenty of stories, including ones that are probably true, about note brokers and private individuals being "run out of town" both in Scotland and in the States for daring to request cash in exchange for notes. Ideally, the law should allow banks to engage freely in all manner of contractual agreements with their customers, enforcing those agreements as written. In practice the law did neither.

Contingent-convertibility contracts—contracts that make the redemption of a bank note or deposit credit contingent upon the *total value* of redemptions being requested at any *moment*—*may* take either of two forms. One allows a bank under special circumstances to "suspend" or "restrict" convertibility of deposits into high-powered money. A bank while suspending convertibility may still engage in other types of banking business, by issuing notes, accepting deposits, and making loans. It may also make special arrangements for continuing its settlements with other banks, thereby ensuring that notes and checks drawn from it can still be used for payments generally. The other kind of contingent-convertibility contract provides for the issuance of "option-clause" notes, which can, at the issuing bank's discretion, be redeemed either on demand or after a predetermined delay, with interest paid to the notes' holders as compensation in the latter case. Both option-clause notes and suspension of deposit convertibility have been observed in history. The former were issued by Scottish banks prior to 1765; the latter were resorted to on several occasions by national banks in the pre–Federal Reserve era.[26] Moreover, as Dowd (1988), Gorton (1985), and others have observed, their use is entirely consistent with the interests of both banks and their customers, so that legal restrictions alone have stood in the way of their more widespread use in place of unconditionally convertible liabilities. It would be only in banks' interest to exercise their option to suspend cash payments in situations where such payments become physically impossible (Postlewaite and Vives 1987, pp. 490–91). According to Gorton (1985, p. 190) suspension in such circumstances prevents bank liability holders from engaging in behavior that could force their banks to suffer "fire-sale" losses: "Suspension circumvents the realization of suboptimal depositor withdrawals which are based on (rational) fears of capital losses" but which could lead to even *greater* losses than a more orderly process of liquidation. More importantly, perhaps, the mere prospect that suspension may be resorted to will, according to Dowd (1988, p. 327), "suffice to stabilize [a] panic and protect the banking system from collapse." Thus contingent-convertibility contracts can provide an effective substitute for a lender of last resort or deposit insurance or other government-imposed devices for containing a banking panic.[27]

[26]Although it is true that suspension of payment by national banks could not be based upon prior, contractual consent of their customers, Gorton (1985, p. 177) observes that "neither banks, depositors, nor the courts opposed it at any time."

[27]Diamond and Dybvig (1983) claim that contingent-convertibility contracts may be inferior to deposit insurance because suspension under the former will harm the interests of depositors who wish to withdraw high-powered money for the purpose

Conclusion

Despite frequent claims to the contrary, fractional-reserve banking systems are not inherently fragile or unstable. The fragility and instability of real-world banking systems is not a free-market phenomenon but a consequence of legal restrictions. This does not mean that deregulation is without its dangers. Dismantling bad bank regulations is like cutting wires in a time bomb: The job is risky and has to be done in carefully ordered steps, but it beats letting the thing go on ticking. Once the fuse—the legal restrictions—is dismantled, the payload—central banking and fiat money—can safely be disposed of.

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of increasing their consumption expenditures even as it safeguards the interests of depositors who "panic." This argument neglects the fact that high-powered money is not needed for normal expenditures, particularly if bank notes can be issued freely. A suspension of payments, unlike a bank holiday, need not interfere with depositors continuing to make purchases by check or bank note. Historically, banks (and hence the public generally) have frequently agreed to accept notes and checks of suspended (even failed) rivals at par.

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Unsettled Issues in the Case for Free Banking

Thomas M. Humphrey

George Selgin has written an excellent paper—clear, vigorous, and thought-provoking. He leaves no doubt about where he stands. His refreshing lack of ambiguity and equivocation makes his paper a pleasure to read and to discuss.

He argues two points. First, a system of free competitive banks is inherently more efficient and less fragile than one bound by legal restrictions. Second, such a system, being stable, needs no lender of last resort (LLR).

I largely agree with the first point, although hardly with the degree of certitude to which Selgin adheres to it. True, a completely deregulated banking system might be less fragile than a regulated one. But it seems likely that, during the transition to completely free banking, deregulation itself might make the system more vulnerable to liquidity shocks. Then too, I suspect that while complete deregulation could lessen the likelihood of liquidity crises, it also might increase the magnitude and severity of those that might occur. But I believe the first consideration would outweigh the second. So, on balance, deregulation should lessen financial fragility.

Outside versus Inside Money

On Selgin's second point, however, I disagree. Does it follow that removing all restrictions on banking would obviate the need for an LLR? I do not think so. Even with free banking, events will occasionally trigger the desire of moneyholders to shift from inside (or bank-created) into outside (or high-powered) money. In a fractional reserve banking system those demands must be accommo-

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dated if monetary stability is to prevail. There has to be some agency to prevent the multiple money stock contractions and severe deflationary pressures that otherwise would occur from panic-induced attempts to switch from inside to outside money. Free banks could not do the job since they would issue only inside, not outside, money. Of course, a competitive banking system could issue ersatz high-powered money in the form of option clause notes and clearinghouse certificates. But these expedients, though preferable to doing nothing and closing the banks, are imperfect substitutes for outside money itself. They are relatively costly and, historically, have been unpopular ways of handling demands to switch into high-powered money.

It seems to me that Selgin slides too quickly over this point. Even in a system of free banks, notes and deposits of those banks have to be convertible into some form of base or outside money. Since free banks themselves are inherently incapable of producing outside money, convertibility into which fixes the monetary standard and the unit of account, some role would remain for the central bank. In short, competitive banking does not provide outside money. Given a fiat monetary standard, only the central bank or LLR does that.

Neglect of the distinction between inside and outside money invalidates at least two other Selgin arguments. It invalidates his assertion that liquidity panics and bank runs could be avoided if banks were free to issue hand-to-hand currency in the form of their own notes. Such note-issuing powers, Selgin contends, would enable banks to accommodate their depositors' panic-induced desire to switch to cash. But this argument clearly confuses inside with outside money. Private bank notes are inside money. During panics, people do not want to convert into inside money. Rather they wish to convert into outside or high-powered money, namely gold and/or notes of the central bank. Henry Thornton, the formulator of the classical theory of the lender of last resort, made this point as early as 1802 when he said that liquidity crises due to harvest failure, threat of invasion, or war caused people to want to get out of notes and deposits of country (i.e., non-London) banks and into gold or its equivalent, namely Bank of England notes.

Neglect of the inside-outside money distinction appears again in Selgin's suggestion that anti-branching laws and the Fed's monopoly over note issues caused the Great Contraction of the 1930s. In fact, neither did so. What caused the depression was the Fed's failure to issue high-powered money in sufficient quantities to keep the money stock from declining in the face of rises in the public's cash/deposit ratio and bankers' reserve/deposit ratios. The Great Depression is a prime example of what can happen when the lender of last resort

fails to function. Contrary to Selgin's argument that an LLR is unnecessary, the depression dramatically demonstrates the need for a properly working LLR in a fractional reserve banking system.

Unplanned Evolution or Conscious Design?

It is ironic that an avowed Austrian economist like Selgin would replace the LLR—an institution that evolved through no conscious plan or design—with an alternative utopian system of his own design. Austrians traditionally argue for the spontaneous over the planned, for the evolutionary over the revolutionary. Usually they hold that institutions produced by cultural evolution operating through an invisible-hand process are superior to those produced by deliberate human design. Not in this case, though. No matter that LLRs evolved unplanned. No matter that they emerged spontaneously when central banks, initially established to raise revenue for the crown, gradually and reluctantly took on responsibility for averting liquidity crises. Selgin would replace them with a utopian free-banking system of his own design. Here is the irony of an Austrian advocating the planned over the spontaneous. If free banking is superior to all other monetary arrangements, why did it not gradually emerge as the dominant one?

Selgin, in behalf of his free-banking system, seeks to enlist the support of Walter Bagehot. And it is true that Bagehot viewed laissez faire as the most perfect and natural system of banking. But Bagehot, unlike Selgin, did *not* advocate replacing the existing English system (complete with legal restrictions and central banking) with the ideal natural system. He thought that once the public had become acclimated to the existing system, imperfect thought it might be, it would be a mistake to alter it radically.

Risks of Radical Reform

There is much to be said for Bagehot's view. Why not accept the inherited system of central banking and make improvements to it? Doing so would be far less risky than moving to the theoretically ideal, but historically untried (in the United States at least), system of completely free banking. Besides, there is plenty of evidence from places like West Germany, Japan, and Switzerland that central banks can deliver much the same degree of monetary and banking stability that Selgin claims for free banking. The Federal Reserve, too, certainly has the power, though not always the will, to deliver such stability. Why destroy that power for something as yet virtually untried? Far better for scholars to devote their efforts to convincing the Fed to use the stabilizing powers it possesses.

Possibility of Overissue

Selgin claims that free banks collectively cannot overissue. This claim is untenable. Consider a case where free banks are operating on an inconvertible paper standard and lending against sound commercial bills drawn to finance real goods in the process of production (the real bills doctrine). Let a temporary random shock drive up money and prices. The boost in prices raises the nominal value of finished and semi-finished goods, thus giving rise to an increasing volume of bills presented to the banks for discount. Banks, adhering to the real bills criterion, lend additional new money against these bills. The extra money created underwrites further price increases. In this way, money, prices, and bills chase each other upward ad infinitum in a self-reinforcing inflationary spiral. Inflationary overissue persists because no reserve constraint operates to stop it. Since all banks are expanding at the same time, they will not be losing reserves (central bank notes) to other banks through the clearinghouse. Their reserve ratios will be falling, to be sure. But they will be totally unconcerned about such falling ratios since they are using the real bills criterion rather than reserve ratios as their policy guide.

Even under a gold standard, free banks as a group could temporarily inflate the currency. Although ultimately constrained by the resulting external drain of gold reserves through the balance of payments, they could, by responding sluggishly to the loss of reserves, overissue for a long enough time to cause problems. Indeed the Currency School, in its mid-19th century debate with the rival Banking School, saw such behavior as the cause of the English monetary crises of the 1820s and 1830s. According to the Currency School, the country banks together with the Bank of England had continued to overissue even as gold was flowing out, delaying contraction to the last possible minute, and then contracting with a violence that sent shock waves throughout the economy. The Currency School argued that because of this possibility of the banks overissuing as a group, convertibility per se was an inadequate monetary safeguard and needed to be supplemented with legal restrictions in the form of a 100 percent marginal gold reserve requirement on the Bank of England and a freezing of the note issue of the country banks. No free-banking proponent who was aware of the Currency School-Banking School debate would claim that free banks cannot overissue.

Other Considerations

The foregoing are the major points I wished to make. But I also partially disagree with Selgin on at least four minor points. First, so-

called zombie thrift institutions with negative net worth have *not* been propped up by central bank loans, at least not before February 1989. Even today the Federal Reserve requires that its discount-window loans be fully collateralized; insolvent institutions with worthless collateral do not qualify. True, in February 1989 the Fed announced that it would, as part of the Bush Administration's emergency plan, begin lending to insolvent thrifts on FSLIC collateral. In the end only a few such loans were made, and all were fully collateralized. Still, this move sets a potentially dangerous precedent. If lending standards to insolvent institutions are liberalized even further, Selgin may prove to be right after all.

The remaining points of disagreement can be dealt with summarily. (1) Policy mistakes of the central bank are not the only macroeconomic shocks of sufficient magnitude to trigger economy-wide bank runs. Real and expectational shocks could also do it. Examples include the shocks stressed by Henry Thornton: crop failures in predominantly agrarian economies, rumors of invasion, war, or revolution. (2) It was not the critics of the Bullion Report who blamed the Bank of England for inflationary overissue of paper during the Bank Restriction period. Rather it was the writers of the Bullion Report itself and their followers (the Bullionists) who blamed the Bank. The critics of the Report were the so-called Antibullionists. They sought to absolve the Bank from blame. (3) Finally, the U.S. currency shortage after 1882 was *not* due to the shortage of government securities as collateral. The collateral constraint was not binding; banks did not issue up to the full potential allowed by their security holdings. Philip Cagan calls this the puzzle of the National Bank notes, that is, their failure to grow up to the constraint.

Resolving the questions raised above—particularly those relating to outside money and the possibility of inflationary overissue—would, I think, considerably strengthen Selgin's already impressive case for free banking.

Rethinking the Case for Central Banking

William A. Niskanen

May I make a confession. In some areas of public policy I sense that my views are usually quite radical, in that I am prepared to promote a substantial reduction of the contemporary role of government. In other areas my views are more conservative, more from lack of understanding than from any conviction that the status quo is appropriate.

George Selgin has convinced me that my conservative acquiescence to the contemporary role of central banks has been misplaced. I had long recognized that central banks were the primary agents of both major recessions and sustained inflation, but I had casually accepted the argument that a lender of last resort and a monopoly of note issue were necessary to prevent panics in a fractional-reserve banking system. Selgin and other scholars now inform me that private banks worked quite well in several historical periods before being subject to restrictions on their organization and activities that reduced their potential to respond to runs. And I am aware that some contemporary banking systems work quite well without a central bank (such as Hong Kong) or without deposit insurance (such as Switzerland). Moreover, it is increasingly clear that the conventional arguments for a central bank are *second-best* arguments that assume the restrictions that have increased the vulnerability of private banks.

But it is less clear where we go from here. Selgin's paper concludes with a vivid analogy: "Dismantling bad bank regulations is like cutting wires in a time bomb: The job is risky and has to be done in carefully ordered steps, but it beats letting the thing go on ticking."

The Case for Changing Policy Regimes

The case for changing public policy must be based on two arguments: (1) With zero transition costs, it must be shown that the

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alternative regime is indeed superior; and (2) with positive transition costs, it must be demonstrated that a transition strategy can be implemented that yields *net* social benefits.

Zero Transition Costs

Some alternative policy would be better than the current policy if it could be implemented without transition costs. In this case, we need to convince the political community that central banking is a "time bomb." This is probably correct, but I am not optimistic that we can make the case. U.S. officials responded to the bank panic of 1907, not by removing the restrictions that contributed to this panic, but by creating the Federal Reserve. The financial collapse of 1929–33, a condition primarily attributable to grossly irresponsible behavior by the Federal Reserve, led to both deposit insurance and further sectoral and regional cartelization of the financial system. And the high rate of bank failures in this decade, a condition that is primarily attributable to the combination of deposit insurance and the cartelization of the financial system, is likely to lead to more regulation of bank portfolios. Moreover, the improved performance of monetary policy in this decade has reinforced the prestige of the Federal Reserve, despite an inflation rate that was unacceptable 20 years ago. A central bank may be a "time bomb," but some new crisis is probably necessary for others to understand this case, and there is a risk that the crisis would lead to ever-worse policies.

Positive Transition Costs

The first argument is not enough, as the costs of transition may be higher than the difference in the benefits of alternative policies. I am reminded of a comment about ending farm subsidies by a leading agricultural economist; he remarked that "the Niagara River is about as smooth five miles below the falls as above the falls, but the transition is a bitch." In this case, we need to understand the "carefully ordered steps" that would minimize the costs of a transition from the current banking system to a free-banking system without a central bank or deposit insurance.

Careful selection of a transition strategy is very important, because any wrong step would probably stop or reverse the process. This problem, for example, was not adequately addressed in 1980 when Congress deregulated deposit rates and increased deposit insurance without reforming the deposit insurance system; the result will be a huge cost ot the taxpayers and some reregulation. Selgin recognizes but does not address this issue, except in a footnote in which he concludes, I believe correctly, "that deposit insurance may have to

be reformed or repealed *before* all portfolio restrictions (except those that concern clear conflicts of interest) can safely be lifted." In other words, repeal of Glass-Steagall should not be the first step.

The Optimal Policy Strategy

May I suggest, especially to my libertarian colleagues, that it is counterproductive to argue about end-states in the public arena. The optimal *strategy*, I suggest, is to make the case for an initial sequence of steps that would be valuable and low risk, whether or not the subsequent steps lead to the end-state that you believe may be desirable. Free banking, privatizing the Federal Reserve, and repeal of deposit insurance may be the best end-state, but that debate, at this time, is best left to the academic journals. The more important task is to determine the most important next steps.