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REDUCING MORAL HAZARD IN DEPOSIT  
INSURANCE: A POLICY INSTRUMENT FOR  
GENERATING REGULATORY INFORMATION

by

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Faculty of Social Sciences  
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1995

## **REDUCING MORAL HAZARD IN DEPOSIT INSURANCE: A POLICY INSTRUMENT FOR GENERATING REGULATORY INFORMATION**

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Reducing Moral Hazard in Deposit  
Insurance:  
A Policy Instrument for Generating  
Regulatory Information\*

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April, 1995

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Though a strong case can be made for a public role in insuring bank deposits, the provision of public insurance creates a moral hazard for deposits that necessitates greater direct regulation of banks. In this essay, I propose a scheme of public deposit insurance that reduces moral hazard and generates information valuable to the effective allocation of scarce regulatory resources. I explicate the scheme by comparing it to the deposit insurance currently official in the United States.

The massive insolvencies of hundreds of depository institutions, particularly savings and loan (S&L) associations in the 1980s, continue to traumatize the worlds of finance and politics in the United States. It will have cost American taxpayers hundreds of billions of dollars to bail out the depositors of the failed thrift institutions by the time the insolvencies have been fully resolved. The S&L crisis indicates an imminent need for fundamental changes in the federal deposit insurance system, and in particular, the Federal Deposit Insurance Corporation (FDIC).<sup>1</sup>

The federal deposit insurance system has two goals (FDIC, 1989; Baer, 1985; White, 1989): The first goal is to provide insurance. Federal deposit insurance shifts the risk faced by individual depositors to the government. It provides all the individuals in the society, especially those unsophisticated savers, with a safe investment vehicle. The second goal is to provide a way to prevent bank runs and promote the stability of the monetary system. Without deposit insurance, bank panics might occur with severe consequences for the economy. For example, they significantly reduced the money supply in 1929 and the early 1930s, contributing to the depth of the Great Depression (Friedman and Schwartz, 1963). In addition, bank panics may also interfere with the function of business lending of financial intermediation (Bernanke, 1983).

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<sup>1</sup>In fact, the S&Ls and commercial banks are currently regulated by four agencies with overlapping jurisdictions: the Federal Deposit Insurance Corporation, the Federal Reserve, the Office of the Comptroller of the Currency, and the Office of Thrift Supervision. However, for simplicity of exposition, I will refer to them as the FDIC system.

## 1. Limitations of the Current FDIC System

Although the current FDIC system had worked well to achieve these two goals, the S&L debacle highlights the potentially high cost of the current system. The most serious drawback of the current deposit insurance scheme stems from the “moral hazard problem” of depositors. Moral hazard problem exists in almost every insurance scheme. Without deposit insurance, the threat of depositors’ withdrawal of their deposits works as a market disciplinary device restraining excessive risk-taking by bank managers. However, federal deposit insurance eliminates this market discipline and gives depositors little incentive to monitor the risk-taking activities of banks because the safety of their deposits is guaranteed. Empirically, much evidence supports the claim that the moral hazard significantly contributed to the S&L debacle and increased the cost of the S&L bailout (Gunther, 1990, 1991; Gunther and Robinson, 1990; Brewer III and Mondschean, 1992; Shoven et al., 1992).

The current federal deposit insurance system also operates in a problematic regulatory environment. One major problem of the current regulatory system is the problem of “too big to fail.” Because the closing of a large bank may result in monetary and financial disruptions, or even bank panics that may generate even greater financial disruptions, bank regulators are usually reluctant to close a large bank. Although the FDIC insurance coverage is limited to \$100,000 per individual per institution, the limit is not effective in providing banks with market discipline to control risk because uninsured deposits make up a very small portion of deposits at all but the largest banks (Baer, 1985), while the uninsured deposits in large banks are *de facto* protected by the policy of “too big to fail” of the FDIC. The other problem of the current regulatory system is the Principal-Agent problem between taxpayers and regulators. This problem is analyzed by Kane (1989a, 1989b) and is well summarized by Jaffee (1989, page 7) as follows:

“....Congressmen and FSILC<sup>2</sup> regulators (the agents) were acting on their own behalf, rather than on U.S. taxpayers (the principals). The result was that each wave of regulators deferred action, left office, and passed the problem to the next group, which then repeated the process....” Therefore, the current regulatory system is likely to be inefficient even if more detailed “inside” information is available to bank regulators.

## 2. Proposed Reforms

The problems of the deposit insurance have been recognized and various policy suggestions have been put forward and debated. In particular, the recent U.S. Treasury plan for banking reform that was released on February 5, 1991 recommended several potentially valuable policies, intending to promote a safe, sound, and competitive banking system. These policies include the stricter enforcement of capital requirements, improved power of supervision, improved measurement of capital, risk-based deposit insurance, and restrictions on risky activities. However, as evaluated and commented by many economists (e.g. Mishkin, 1992; Keeton, 1991; Rasche, 1991), they are not adequate to solve the problem of the inefficiency of the FDIC system. As Pierce (1991) points out, these proposals to reform banking attack symptoms and not disease. As the problems of moral hazard are left unsolved, other painful “symptoms” are likely to inflict taxpayers in the future.<sup>3</sup> As Henderson and Poole (1991, page 845) interestingly put it, “....Better federal regulation could no doubt have made a difference, but without proper incentives we should not expect a good outcome. Washington regulators will not be any more successful in running an industry than Moscow regulators.”

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<sup>2</sup>Federal Savings and Loan Insurance Corporation (or FSLIC) went bankrupt in 1989 and was merged into the FDIC.

<sup>3</sup>Some radical proposals, such as cancelling the deposit insurance or the “narrow banking” policy that restricts banks to providing only transaction services by investing in riskless assets (e.g. short-term Treasury bills), go further toward treating the “diseases”. While these policies may reduce the inefficiency of deposit insurance, they sacrifice the goals that the deposit insurance can achieve. Thus, they do not seem to be either feasible or desirable.



In this note, I attempt to put forward a proposal that will help to solve the moral hazard problem of the depositors and the problems of the current regulatory system, while achieving the two goals of the current FDIC system.

### **3. An Alternative: A Flexible Insurance Scheme**

I propose that a depositor be free to choose to buy either “full” or “partial” insurance from the FDIC. If a depositor chooses to be “fully” insured, then she will have to forgo some of the interest on her deposit in order to pay for the cost of federal deposit insurance. Thus, this option for depositors is similar to the current FDIC system. The innovation of my scheme, however, is to allow depositors to buy “partial” insurance from the FDIC. In this case, a depositor earns the market interest rate from her deposit when her bank is sound. However, if her bank goes bankrupt, or if the FDIC evaluates that her bank’s performance does not meet specified criteria (e.g. the net worth or the capital ratio of the bank is below a certain level), then the depositor will be fined by the FDIC. The determination of the exact amount of the fine will be discussed later. Finally, a depositor can change her insurance scheme *at any time* with little or no charge by the FDIC.

In the following, I explain in detail how the proposal solves the problems of the current regulatory system, while achieving the two goals of the FDIC.

First, the proposal guarantees the stability of the monetary system. The concern of bank runs stems from the fact that depositors may find it to be optimal to turn all of their bank deposits into cash under certain circumstances (e.g. when they cannot know which bank is completely sound.) Under my proposed scheme, as an individual always has the choice of buying full insurance from the FDIC, she will not choose to transform the deposits (that she is not spending immediately) into cash in any case. Meanwhile, the FDIC may also always choose a positive interest rate for “fully” insured deposits to guarantee further that cash

is a dominated asset. Also, there may be a lower transaction cost of buying the full insurance from the FDIC than going to the bank to withdraw the deposits. In fact, modern technology, such as the telephone payment system, illustrates that the operation of buying full insurance from the FDIC can be implemented instantaneously. Thus, bank runs will never occur and the banking system will always be stable in the scheme.

Second, the proposal can significantly reduce, or even eliminate, the moral hazard of depositors, because it provides depositors with incentives to monitor banks' activities. The FDIC can choose the interest rate for "fully" insured deposits to be low enough that at least some depositors, especially large and sophisticated depositors, will choose to buy partial insurance. Therefore, they will have incentives to monitor banks in order to reduce the expected cost of being fined by the FDIC in case that the FDIC evaluates that their banks fail to meet the set criteria. When a depositor observes that her bank is being run well, she will keep her partial insurance scheme for higher return (interest). When a depositor observes and believes that her bank is being run badly, however, she will either transfer her money to another bank, or she may buy full insurance from the FDIC.<sup>4</sup> As the actions of a bank's depositors' buying full insurance signals to the FDIC that the bank is being run badly, the FDIC may take actions to regulate or even close the bank. If the FDIC does not take actions to regulate the bank adequately, these depositors will ultimately find safer banks to which they will transfer their deposits. Thus, in either case, banks will be subject to the rigors of market discipline.<sup>5</sup>

Third, in the scheme, market discipline will not be eliminated by the problem of "too big to fail." In the current FDIC system, a large depositor can suffer a

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<sup>4</sup>In the short run, because of asymmetric information, a depositor often infers that her bank may fail from observing some other banks' failure. Temporarily, she may not be able to tell which bank is healthy. In this case, she may choose to buy full insurance from the FDIC, at least temporarily.

<sup>5</sup>To prevent some possible (although very unlikely) collusion between depositors and banks, an upper bound of interest rate paid to depositors may be specified.

loss only when his bank fails. So, if she deposits in a big bank and expects her bank to be “too big to fail”, she will never suffer any loss and therefore will have no incentive to monitor her bank. In the proposed scheme, however, the FDIC can punish the depositors whose banks run badly without closing their banks. Thus, the depositors will have incentive to monitor their banks’ behavior even if they expect that their banks are too big to fail.

Fourth, the proposal may reduce the principal-agent problem between taxpayers and regulators. This principal-agent problem stems largely from regulators’ discretionary power. However, the signals sent by depositors to the FDIC (through buying full insurance) provide an objective and concrete guide for regulators’ actions and decisions. Moreover, in the case that the FDIC does not take sufficient action to regulate the bank, these depositors will ultimately find other safer and better banks to which they will transfer their deposits. So, the regulation, reorganization or closure of a bank by governmental regulators will be monitored and prompted by depositors’ actions. Therefore, the proposal helps solve the principal-agent problem. In fact, a unique feature of the scheme is that it utilizes governmental regulation while limiting regulators’ discretionary power.

Fifth, as many depositors are not very well equipped to monitor the activities of banks, the pursuit of profits will generate some private insurance companies that will play a complementary role in our scheme. The private insurance agency will insure many partially insured depositors against the fines by the FDIC. Thus, they will specialize in monitoring banks’ activities. In this case, depositors can be allowed to delegate to any of those private insurance agency the power to buy full insurance for her from the FDIC.

Finally, let us consider how to determine the optimal amount of fine that the FDIC will impose on a “partially” insured depositor if the FDIC evaluates that her bank fails to meet the set criteria. Clearly, the greater the fine is, the more incentive the partially insured depositors will have to monitor the banks.

Therefore, the fine should be set high enough to make the proposed scheme effective. However, it is also not desirable to set the fine too high, because an overly large potential punishment from the FDIC may discourage even large and sophisticated depositors to choose to be “partially” insured and it may make the policy dynamically inconsistent.<sup>6</sup> The result of the simulation by Fan (1994) suggests that a plausible fine be about 15% of a depositor’s deposit. Besides, considering that some depositors are “small and unsophisticated,” the policy maker may choose to provide them with full insurance to a certain level without charge (of their interest).<sup>7</sup>

#### 4. Conclusion

In brief, I have put forward a proposal that will encourage greater market discipline of depositors and will strengthen and streamline regulation. In particular, this policy instrument will have the interesting property that it creates incentives for depositors to reveal information about banks useful to regulators.<sup>8</sup> In contrast to most existing proposals, this scheme attempts to optimally combine market discipline with governmental regulation to achieve maximal social welfare.

The proposed scheme would help solve the moral hazard problem of the depositors and the problems of the current regulatory system, while achieving the two goals of the current FDIC system. However, this proposal only puts forward the basic idea of a complicated reform scheme. Further research will be necessary to analyze the proposal in detail to examine its feasibility, desirability, and possible extensions.

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<sup>6</sup>See Kydland and Prescott (1977) for an analysis of the time consistency problem of government policy.

<sup>7</sup>An early version of the paper rigorously analyzes the determination of the optimal fine. It constructs a social welfare function that takes into account both efficiency and equity. The optimal fine is obtained by maximizing the social welfare function subject to the constraint that sufficient depositors choose partially insured and the time consistency constraint (Fan, 1994).

<sup>8</sup>More generally, the methods and usefulness of inducing third-party enforcement are discussed in the literature on policy design (e.g. Weimer, 1992; Sonstelie and Portney, 1983).

## References

- [1] Baer, H. (1985) "Private Prices, Public Insurance: The Pricing of Federal Deposit Insurance," *Economic Perspectives*, Federal Reserve Bank of Chicago, 9: 45-57.
- [2] Bernanke, B. (1983) "Non-Monetary Effects of the Financial Crisis in the Propagation of the Great Depression," *American Economic Review*, 73: 257-76.
- [3] Brewer III, E. and T. Mondschean (1992) "Ex ante risk and ex post collapse of S&Ls in the 1980s," *Economic Perspectives*, Federal Reserve Bank of Chicago, July/August, 2-12.
- [4] Fan, C. S. (1994) "How to Reform the FDIC? A Critical Review, A Suggestion, and An Analysis," mimeo, Brown University.
- [5] Federal Deposit Insurance Corporation (1989) *Deposit Insurance for the Nineties: Meeting the Challenge*. January 4, 1989.
- [6] Friedman, M. and A. J. Schwartz (1963), *A Monetary History of the United States, 1867-1960*, Princeton: Princeton University Press.
- [7] Gunther, J. (1990) "Risk and Failure Among Newly Established Texas Banks," Working Paper, FIS No. 6-90, Federal Reserve Bank of Dallas.
- [8] Gunther, J. (1991) "Financial Strategies and Performance of Newly Established Texas Banks," *Financial Industry Studies*, Federal Reserve Bank of Dallas.
- [9] Gunther, J. and K. Robinson (1990) "Moral Hazard and Texas Banking in the 1980s," *Financial Industry Studies*, Federal Reserve Bank of Dallas.

- [10] Herderson, J. V. and W. Poole (1991) *The Principle of Economics*, Lexington, MA: D. C. Heath.
- [11] Jaffee, D. (1989) "Symposium on Federal Deposit Insurance for S&L Institutions," *Journal of Economic Perspectives*, Fall, 3-9.
- [12] Kane, E. (1989a) "The High Cost of Incompletely Funding the FSLIC's Shortage of Explicit Capital," *Journal of Economic Perspectives*, Fall, 31-47.
- [13] Kane, E. *The S&L Insurance Crisis: How Did It Happen?* Washington D. C.: Urban Institute Press.
- [14] Keeton, W. "The Treasury Plan for Banking Reform," *Economic Review*, Federal Reserve Bank of Kansas City, May/June: 5-24.
- [15] Kydland, F. E. and E. C. Prescott (1977) "Rules rather than Discretion: The Inconsistency of Optimal Plans," *Journal of Political Economy*, 85(3): 473-492.
- [16] Mishkin, F. (1992) "An Evaluation of the Treasury Plan for Banking Reform," *Journal of Economic Perspectives*, Winter, 133-153.
- [17] Pierce, J. (1991) *The Future of Banking*, New Haven: Yale University Press.
- [18] Rasche, R. H. (1991) "Modernization of the Financial System: Treasury Recommendations Related to Deposit Insurance," Working Paper Series No. 91-01, Shadow Open Market Committee.
- [19] Shoven, J. B., S. B. Smart, and J. Waldfoegel (1992) "Real Interest Rates and the Savings and Loan Crisis: The Moral Hazard Premium," *Journal of Economic Perspectives*, Winter, 155-167.

- [20] Sonstelie, J. C. and P. R. Portney (1983) "Truth or Consequences: Cost Revelation and Regulation," *Journal of Policy Analysis and Management*, 2(2): 280-84.
- [21] Weimer, D. L. (1992) "Claiming Races, Broiler Contracts, Heresthetics, and Habits: Ten Concepts for Policy Design," *Policy Sciences*, 25: 135-159.
- [22] White, L. (1989) "The Reform of Federal Deposit Insurance," *Journal of Economic Perspectives*, Fall, 11-30.